AN EVALUATIVE AND LONGITUDINAL STUDY OF THE BILINGUAL EDUCATION PROGRAM IN HILLSBOROUGH COUNTY, FLORIDA: 1977-1980

BY

ESTHER ISABEL OTEIZA

A DISSERTATION PRESENTED TO THE GRADUATE COUNCIL
OF THE UNIVERSITY OF FLORIDA IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1981

To My Mother, Father
and Grandfather

ACKNOWLEDGMENTS

There are no words to express my appreciation to Dr. Clemens L. Hallman for the faithful dedication, continuous support, and sincere friendship that he extended to me. As chairman of my doctoral committee, his endless patience and valuable suggestions were vital to the completion of this study.

To Dr. Arthur J. Lewis, I offer my deepest gratitude for partaking in the production of this work. The spirit of scholarship and respect which characterizes him served as a neverending source of professional inspiration and admiration for me.

A very special "thank you" is expressed to Dr. Elroy Bolduc for the many hours he sacrificed and the many times he interrupted his own work to minister to mine. His encouragement and generosity will always be held in the highest esteem.

I wish to acknowledge my gratitude to Dr. Ruthellen Crews, who kindly reviewed the manuscript, and whose wisdom and experience provided many priceless suggestions for its improvement.

My thanks are extended to Dr. Ralph Kimbrough for forming part of my doctoral committee and for always being prepared to facilitate help when it was needed.

Throughout the development of this dissertation, Dr. Eugene Todd has consistently represented a positive and effective force which generated in me all the energy, strength, and perseverance required to reach the finish-line victoriously. To him I extend an expression of the sincere and profound gratitude that will always be remembered.

Heartfelt thanks are extended to Dr. John A. Hilderbrand, Mrs. Norma Lobato, Mrs. Stella López, and Mr. Gioacchino Ippolito. Their kindness, cooperation, and hospitable welcome into the Hillsborough County Board of Education offices were responsible for making the present study a reality.

Acknowledgment of appreciation is due to the U.S. Department of Health, Education and Welfare for extending to me an Elementary and Secondary Education Act (ESEA) Title VII Bilingual Education Teacher-Trainer Fellowship, which made my doctoral studies possible.

The Florida Educational Research and Development Council (FERDC) deserves special recognition and thanks for offering me a research grant which extended financial support and became instrumental in conducting this investigation.

Sincere gratitude is expressed to my dearest friend, Mr. Charles L. Wilson, Jr., for the numberless times he encouraged me to continue the stride when I thought that the rugged journey was too long and arduous to carry on.

I lovingly thank my sister, Miss Elizabeth E. Oteiza, and my grandmother, Mrs. Esther H. Sabin, for the persistent emotional and moral support they extended to me during the difficult times.

There is throughout this study a reflection of the love and devotion of my mother, Mrs. Igdalia Perera-Oteiza, and my father, Dr. Jorge A. Oteiza. It was their constant kindness, compassionate understanding, and trusting faith in my abilities, which made the seemingly endless hours of toil tolerable, and ultimately, fruitful.

It is to my mother, to my father, and in the memory of my grandfather, Dr. Francisco M. Sabin, who truly taught me to love learning, that I humbly dedicate this work.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS iii

LIST OF FIGURES ix

LIST OF TABLES x

ABSTRACT xi

CHAPTER

I INTRODUCTION 1

Statement of the Problem 1
Delimitations 2
Justification 4
Assumptions 23
Definition of Terms 27
Null Hypotheses 32
Limitations 34
Notes 37

II REVIEW OF THE LITERATURE 38

Evolution of Bilingualism and Bilingual Education Public Opinion 38
Types of Bilingual Education Program Evaluations 50
Brief History of Bilingual Education in the U.S. 51
The Need for Sound Bilingual Education Program Evaluation Research 53
Zappert and Cruz: A Model Set of Bilingual Education Program Evaluation Criteria . . 60
  Sound Research Yields Favorable Results. . 60
  Zappert and Cruz's Task 62
  Zappert and Cruz's Evaluative Criteria . . 62
  Final Conclusions of the Zappert and Cruz (1977) Research 63
Summary 64
Notes 65

TABLE OF CONTENTS (Continued)

CHAPTER Page

III DESIGN AND PROCEDURES 66

Background Description of the Site Area 66
  History 66
  Geography 67
  Population 67
  Education 68
  Agribusiness 69
  Other Economic Resources 69
Selection of the Site 70
Description of the Study's Population 70
Selection of the Sample 71
Description of the Sample 75
Description of the Treatment (Bilingual Education Program) 78
  Rationale 78
  Eligibility and Identification for Bilingual Education 79
  Resource Management 81
  Staffing 82
  Itinerant Bilingual Education Program 82
  Bilingual "Buddy Tutor" Program 83
  Bilingual Education Program Design 83
  Transitioning from the Bilingual Program . . . 84
  Procedures for Waiving the Bilingual Program 85
  Evaluation 85
Description of Design 86
Description of the Instrumentation 86
Description of Data 91
Collection of Other Data 92
Data Analysis 93
Notes 100

IV FINDINGS 101

CTBS: Reading Subtest 101
CTBS: Language Arts Subtest 108
CTBS: Mathematics Subtest 110
SFTAA: Academic Aptitude Measure 111

V CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS 114

Conclusions 114
Implications 117
Recommendations 119
Notes 122

TABLE OF CONTENTS (Continued)

APPENDICES Page

A DOCUMENTATION SUPPORTING HISPANIC MINORITY'S GROWTH IN THE U.S. 123

B LAU ENGLISH PROFICIENCY CATEGORIES 125

C BILINGUAL PROGRAM TRANSITIONING LETTERS TO PARENTS 126

D ADDITIONAL INFORMATION CONCERNING INSTRUMENTATION USED IN STUDY 127

E LETTER TO PARENTS REGARDING THE BILINGUAL ITINERANT PROGRAM 129

F PUBLIC ANNOUNCEMENT OF BILINGUAL EDUCATION PROGRAM INCEPTION 130

G *FEDERAL REGISTER* INFORMATION REGARDING BILINGUAL EDUCATION PROGRAM REQUIREMENTS 131

REFERENCES 132

BIOGRAPHICAL SKETCH 142

LIST OF FIGURES

Figure		Page
1	Hispanic Population Growth in the U.S.	20
2	Percentage of Hispanics by State	21
3	Percentage of Hispanics in Florida by County	24
4	An Ecological Model for Education	46
5	The Study's Plan: A Flow Chart	72
6	Reading Percentile Transformation	96
7	Language Arts Percentile Transformation . . .	97
8	Mathematics Percentile Transformation	98

LIST OF TABLES

TABLE		Page
1	TOP 30 HISPANIC AREAS OF DOMINANT INFLUENCE	18
2	THE EIGHT STATES WITH THE HEAVIEST CONCENTRATION OF HISPANICS	22
3	THE SIX FLORIDA COUNTIES WITH THE HEAVIEST CONCENTRATION OF HISPANICS	25
4	THE 57 HILLSBOROUGH COUNTY SCHOOLS PARTICIPATING IN THE STUDY	74
5	TOTAL FREQUENCY OF LUNCH CATEGORIES A, B, AND C FOR GRADES 3, 5, AND 8	77
6	FREQUENCY OF LUNCH CATEGORIES BY GRADE AND PROGRAM	77
7	COMPOSITION OF CTBS BATTERY	86
8	ANALYSIS OF CTBS READING SUBTEST SCORES. .	102
9	ANALYSIS OF CTBS LANGUAGE ARTS SUBTEST SCORES	103
10	ANALYSIS OF CTBS MATHEMATICS SUBTEST SCORES	104
11	ANALYSIS OF SFTAA ACADEMIC APTITUDE MEASURE SCORES	105
12	SUMMARY OF MEAN DIFFERENCES BETWEEN THE SCORES OF THE BILINGUAL EDUCATION AND REGULAR PROGRAMS	115

Abstract of Dissertation Presented to the Graduate
Council of the University of Florida in Partial
Fulfillment of the Requirements for the Degree
of Doctor of Philosophy

AN EVALUATIVE AND LONGITUDINAL STUDY OF THE BILINGUAL EDUCATION PROGRAM IN HILLSBOROUGH COUNTY, FLORIDA: 1977-1980

By

Esther Isabel Oteiza

August, 1981

Chairman: Clemens L. Hallman
Major Department: Subject Specialization Teacher Education

The purpose of this investigation was to determine if there was a difference in academic performance between the Spanish-dominant students in the Hillsborough County, Florida, Bilingual Education Program and comparable students in the Regular Program. Both groups entered their respective programs three years before data collection as Lau English Proficiency Category A (LEPC-A) and were no less than Category C_1 when tested with the Comprehensive Tests of Basic Skills (CTBS) reading, language arts, and mathematics subtests and one measure of mental ability from the Short Form Test of Academic Aptitude (SFTAA).

The sample of 300 subjects was randomly selected from a population of 453 students in the 3rd, 5th, and 8th grades attending 57 schools throughout the county. Socioeconomic status was determined and controlled by recording in which Lunch Category Program (Free, Reduced, or Full-Priced) each student was enrolled. Baseline data were provided and utilized by the exclusive inclusion of only those students who met all criteria and were in their respective programs for all three years.

The hard data consisted of scale and percentile scores for each of the three CTBS subtests and an IQ score for the SFTAA. Twelve null hypotheses were tested using the generalized linear model procedure (Proc GLM) of the Statistical Analysis System (SAS). F tests from standard analysis of variance (ANOVA) were run in order to try detecting differences in achievement levels for the four areas throughout the three target grades.

The results obtained in this study show, through rejection of all twelve null hypotheses, that in every case there was a significant difference between the Bilingual Education and Regular Program groups at a statistically significant level of at least $\alpha = .05$, and at times $\alpha = .01$, depending on the variable and grade in question.

Judging from the implications of these testing performance data, therefore, it appears that the Hillsborough County, Florida, Bilingual Education Program is more effective than the Regular Program in increasing the academic achievement level, as well as the aptitude test performance, of its Spanish-dominant students.

CHAPTER I

INTRODUCTION

Because the federal government has made bilingual education a funding priority in the past (U.S. Code: Johnson in 1968; Nixon in 1974; Ford in 1976; Carter in 1978), and due to the current federal efforts of the present administration to diminish its momentum (Reagan, 1981), the questions of evaluation and accountability in that area have become paramount. With its perpetual preoccupation with inflation, recession, the decline of the dollar, the staggering rise in the price of gold, the exorbitant rate of unemployment, and that dominating atmosphere of general economic malaise slowly filtering to all socioeconomic strata, today's American public has a legitimate and justifiable interest in determining the effectiveness and quality of the educational programs supported by its taxes. This outcome evaluation study was conducted to satisfy that need in Hillsborough County, Florida.

Statement of the Problem

The purpose of this study was to compare the effects of the Bilingual Education Program (BEP) with the Regular Education Program (REP) in Hillsborough County, Florida, on low socioeconomic, Spanish-language-dominant students in the third, fifth, and eighth grades. The effects were measured by comparing scores on the reading, language arts, and mathematics subtests of the Comprehensive Tests of Basic Skills (CTBS) and on the academic aptitutde scores of the Short Form Test of Academic Aptitude (SFTAA).

Delimitations

This is an ex post facto research study confined and delimited to 300 subjects randomly selected from a population of low socioeconomic, third, fifth, and eighth grade students in Hillsborough County, Florida. They all were Spanish-language-dominant, as determined by the Crane Oral Dominance Test (CODT), and had qualified for the County's Bilingual Education Program three years before the testing event by diagnostic placement in the Lau English Proficiency Category A, as determined by the Dade County Test of Language Development: Aural Comprehension (DCTLD-AC). Both of these tests were administered to the students upon entrance to the school system.

The study's outcome was never intended to become an exclusive index of pupil potential, progress, and/or achievement. Because innate human ability cannot be either identified or measured directly, it is understood that the manifestations of this potential cannot always be exhibited in any set test and at any set time, whatever be that test, and whatever be that time. However, a part of this innate ability may often be demonstrated through specific "correct" responses in test performance and may be usefully interpreted as functions of the intellectual potential that the student had to possess in order to attain that response. It is therefore inferred that the innate ability is possessed if the predetermined "correct" response is selected. On the other hand, one may not be so quick to judge that the ability is not possessed by the student, should the overt response chosen be "incorrect," especially yet not exclusively, when focusing on students who are native to other-than-English languages and native to other-than-Anglo cultures. Overlooking this consideration can be particularly dangerous when comparing minority children to their Anglo counterparts.

> The level of test performance becomes dependent upon opportunities which students have had to develop their abilities through experience. In general, the _Short Form Test of Academic Aptitude_ elicits responses which have been developed through various channels open to all members of _our_ culture, rather than reflecting only those which _are_ functions of formal school training. (_Short Form Test of Academic Aptitude Examiner's Manual_, 1970, Level 2, p. 6)

Corroboration for this view comes from Saville-Troike:

> Cultural factors are critically relevant to all evaluations of student achievement, teacher performance, and program effectiveness. Testing itself is a social event, and students may perform differentially in differing testing conditions. Evaluation instruments can never be considered culturally neutral, no matter how "objective" their format. (Saville-Troike, 1978, p. 49)

Justification

Since the passage of the Title VII Bilingual Education Act in 1968, much controversy has been raised regarding the effectiveness of its programs. As Zappert and Cruz (1977) report, much of the argument stems from extreme ethnocentric opinions ranging from "if one is in America he should speak English only and give up his language and culture" (p. iii) to the other extreme that "bilingual education works because children in bilingual classrooms have smiling faces and are happy" (p. iii). Both of these attitudes are based on superficial impressions and do not provide empirical data on which policymakers could base their decisions. These decisions should emerge after close examination of rigorously constructed research designs addressing the issue of bilingual education program evaluation and effectiveness.

Unfortunately, one of the most persistent weaknesses in bilingual education has been specifically in the area of program evaluation. There is an urgent need for evaluator training and preparation, so that the forthcoming evaluations can be carried out properly (Troike & Pérez, 1978). In support of the same, Troike (1978) reports that A. Cohen and Laosa (1976) and Engle (1975) indicate that one of the greatest difficulties in determining the source of positive or negative effects of bilingual programs has been the inadequacy of incommensurability of reported data, resulting from unacceptable program evaluations. For example, "longitudinal studies in bilingual education are almost non-existent" (Blanco, 1977, p. 58), and unfortunately, less rigorous criteria continue to be the norm for evaluation research in most programs (McLaughlin, 1978).

The year 1968 brought more than just Title VII of the Bilingual Education Act. With the advent of that year, the "Era of Accountability" was inaugurated by requiring that program evaluations be added to the Elementary and Secondary Education Act (ESEA) Title VII Bilingual Education Programs. The Hillsborough County Bilingual Education Program was no exception. In order to comply with this federal specification, the topic treated in this study was considered to be among the top educational research priorities in Hillsborough County for 1980. This investigation compared reading, language arts, mathematics scores, and a measure of academic aptitude of students in the Bilingual with those in the Regular Program. Once study results are made public, they will serve to address the issue of accountability.

The results of this study yield one index of comparative student academic and aptitude performance. As summative evaluation, this information will contribute to the determination of both programs' effectiveness in serving the area's low socioeconomic status (LSES), Spanish-language-dominant (SLD), limited-English-proficiency (LEP) clientele. As formative evaluation, the study's outcome could be utilized in preparing guidelines for consecutive years.

Accountability per se reflects the concern of the American people to verify the effectiveness of and the rationale for publicly supported educational systems where tax dollars have been invested. Tye (1971) points out that emphasis has been placed on the performance (product obtained) in comparison to the promises (resources utilized). Zamora (1980) continues to address the issue of the need for well-constructed bilingual education program evaluation designs so as to yield valid research, and in turn, accountability:

> At a time when the education profession faces tighter budgets, decreasing enrollments, declining academic standards and student achievement, a tempting thought would be to turn a deaf ear to the poignant call for accountability in education. . . . Further compounding the ever-pressing problems is an echoing cry for equal educational opportunities via a dual-language program for all ethnic-minority-group children. Bilingual-Bicultural Education (BBE) has definitely experienced its share of questions and criticism as it approaches the end of a decade of federal support under Title VII, Elementary and Secondary Education Act (ESEA). While the number of these Title VII projects has steadily increased, evaluation of them has lagged behind. In the course of these years, local education agencies have made concerted but frustrated efforts to evaluate their BBE programs with adequate instrumentation. But BBE opponents and even naive proponents have all too often released distorted, incomplete, sketchy evaluation reports. Millions of dollars have been expended and a plethora of evaluation reports have been submitted to funding agents, yet useful, meaningful information regarding program designs, approaches, methods, or teaching is lacking. . . . This void is far from being filled, and evaluation must be improved particularly in this age of accountability as it seems to provide timely and relevant data at all levels of the decision-making process. The reasons for failure--whether they are due to insufficient emphasis on the development of an organizational philosophy, lack of definitive policies and procedures, faulty implementation, poor curriculum design, mismanagement, or lack

> of top-level administrator's support--should all be documented and reported. . . . Indications are that with continued economic, political, and social pressures, the word accountability will make itself heard more often and be more visible on the educational scene, thus requiring the design of sounder evaluation plans. . . . In addition, there needs to be a careful and comprehensive evaluation of BBE programs. (pp. 112-113)

There has been a definite paucity of valid bilingual education program evaluations. It should be remembered that bilingual education may substantially increase the equal educational opportunity of language minority students, but only if it is implemented successfully. Without careful planning and consistent evaluation, any bilingual education program would be limited in its effectiveness and replicability (Anderson & Boyer, 1978), as well as risk its self-destruction due to lack of accountability and re-funding.

Most opponents of the bilingual education movement tend to antagonize the funding of research such as the one at hand because they find other priorities which are deemed to be more urgent. The anti-bilingual education lobbyists claim that bilingual programs represent an expensive, unnecessary weight to the already financially overloaded American educational system. They support cuts in this area, embracing the conviction that dissolving its existence will save the American citizen many tax dollars.

Large numbers of children in the nation and especially in the State of Florida speak Spanish at home. Unfortunately, many of these do not speak English at all. Considered as a group, these children constitute one of the most dramatic failures of the American educational system. They enroll in school lacking the elementary prerequisite for educational success--the ability to understand and communicate in the language of instruction. The majority of these children are mainstreamed and left to sink or swim. Because of psychological, sociological, and educational pressures, too often they sink. What little instructional aid is given to these non-English-speaking children usually takes the form of remedial reading. All of these programs fall under the general category of compensatory education and are predicated on the idea that the children are intellectually inferior or handicapped, sometimes not only by their inability to speak English, but much too often by their ability to speak Spanish. They are considered to be "culturally deprived" (Ausubel, 1963; Dickey, 1964; Fantini & Weinstein, 1968; Groff, 1963; Malkin, 1964; Olson & Larson, 1966; Shaw, 1963; Wolf & Wolf, 1962) or "culturally underpriveleged" (Burton, 1967) or "culturally disadvantaged" (Black, 1965; Fantini & Weinstein, 1968; Frazier, 1964; Haubrich, 1963; Kaplan, 1963; Yourman, 1964), or what is even worse, they are considered to be "linguistically, culturally, socially, educationally, and economically 'deprived'" (McHugh, 1981, p. 400) by ascribed status at birth. Most of the terms used to describe these children's home culture imply a negativistic and ethnocentric judgment. Nonintentionally and ironically enough, the remedial programs in which the limited-English-speaking-ability (LESA) children are placed have a destructive effect upon their self-concept and serve to retard their normal intellectual progression. It would be safe to assume the likelihood that these results or responses from the child may have been caused or stimulated by the teachers themselves or by the program in which the child is enrolled, both of which had no ambitious expectations of the student. This hypothesis would lend credibility to the Pygmalion Effect and "self-fulfilling prophecies" theories (Rosenthal & Jacobson, 1968). These students become so disillusioned with school that a shocking percentage of them drop out of school. In Texas, 47 percent of the Mexican-American students dropped out before completing high school (Wright, 1973). In Boston, 90 percent of the Puerto Rican pupils had already dropped out by the time they reached high school age (Wright, 1973). In the five Southwestern states, Anglos 14 years of age and over have completed an average of 12 years of school compared with 8.1 years for Spanish-surnamed students (Yarborough, 1967). Compared with that of persons with English-language backgrounds, the dropout rate was 4.5 times as high for Hispanics who usually speak Spanish (HEW's Survey of Income and Education, Spring 1976, as reported in Roybal, 1979). It is a proven sociological fact that high dropout rates yield unemployment, which in turn brings about crime, poverty, and a plethora of other socioeconomical problems.

Contrary to the belief of many, the studies of foreign languages and cultures, as well as the acceptance of bilingual education, do not present separatist or un-American philosophies: Quite the opposite.

First of all, it is no secret that the study of more than one language has always been considered to be an essential counterpart of any well-rounded education (Halperin, 1981), particularly to all of the so-called civilized, advanced, and industrialized countries of the world. This uninterrupted historical trend dates back to days preceding the flourishing of Egypt, Rome, and Greece. In all of the affluent modern countries, foreign language learning is an educational and social priority. One or more foreign languages form an important component of the basic core of the curriculum. Today's United States, in spite of all its medical, scientific, technological, and technical sophistication, is an exception to this rule.

> The sad truth is that U.S. students lag far behind their foreign counterparts in the ability to speak a second language. The impact of this education gap goes beyond the inconvenience of coping with a French menu in Paris; it means the next generation of businessmen, politicians, international analysts, and diplomats may be dangerously lacking in necessary skills.
>
> Academicians, corporations, and even government officials are beginning to recognize the decline in foreign language study as a problem of major national proportions. . . .
>
> According to Sylvia Porter, consumer economist and financial affairs columnist, a language skill combined with other skills may double a student's chances of getting the job he wants. (Martin, 1980, p. 160)

Other authoritative sources, such as the Kappan, support the same trend:

> Most U.S. college students have "a limited, parochial view of the world," according to a national survey of 3,000 students conducted by the Educational Testing Service (ETS). More than one-third of students--who represented 185 two-year and four-year colleges and universities--reported that they are not even interested in world affairs. . . .
>
> ETS noted that "the lack of knowledge of international affairs appears related to the general lack of interest in other nations and world issues among these students." One senior in five and one freshman in four said they rarely read foreign news. . . .
>
> More than half of all the freshmen thought that oil-poor Egypt is a member of OPEC (the Organization of Petroleum Exporting Countries), for example. Forty-two percent of seniors thought the world was consuming more than 10 billion tons of fuel annually in the Middle Ages. Nearly 40% of all students thought that most of the world's newest nations are located in Europe and Asia. (For college students, lack of interest breeds ignorance of foreign affairs: ETS, Kappan, June 1981, p. 691)

The following figures serve to verify the unfortunate situation:

> - According to a . . . recent study by the President's Commission on Foreign Language and International Studies, only 15 percent of the nation's high school students study a foreign language.[1]
> - Fewer than 1 percent of all students enrolled in U.S. colleges and graduate schools are studying the languages used by approximately three-quarters of the world's population.
> - Some 10,000 Japanese businessmen operate in New York City; all of them speak English. Some 1,000 Americans do business in Japan; almost none speaks Japanese.
> - The U.S. State Department no longer requires proficiency in a foreign language as a prerequisite for admission to the Foreign Service. (Simon, 1980)

Like other observers, U.S. Representative Paul Simon (D-Ill.) questions whether the U.S. would have been caught so flat-footed in the recent Iranian turmoil had there been more Farsi speakers working in the American embassy (Simon, 1980).

Massachusetts Senator Paul E. Tsongas blames this American indifference on the misconceived belief that "somebody always speaks English" (Tsongas, 1981). In the wide wake of the "me" decade, Tsongas asks us not to forget how basically insular and isolationist our culture is. He tells us that foreign affairs have occasionally fascinated Americans, but most of the time it is all we can do to understand the culture of California, much less the Horn of Africa. While asking themselves "where's the payoff?" Americans, both instrumentally motivated by promises of financial flourishing and affectively motivated by the humanistic benefits of bilingualism/biculturalism, should take a second look at the issue. This is one field where the U.S. is behind all other industrialized nations. Specifically, both Simon (1980) and Tsongas (1981) express the fear that the American shortage of speakers of Japanese contributes to the poor balance of trade between the two countries. These and many other related and compelling issues are worthy of consideration to all Americans, the two statesmen declare. The Sleeping Giant must awaken if he is to survive during modern times in our rapidly shrinking world.

However,

> widespread monolingualism among U.S. citizens is a recent [and unfortunate] phenomenon. During the decade following the major waves of immigration in

> the early part of the 20th Century, millions of U.S. citizens spoke English as well as the language of their parents and grandparents. Bilingualism began disappearing by midcentury,[2] when second- and third-generation citizens in the U.S. shunned the language of the Old Country.
>
> It is significant, of course, that bilingualism in the United States today has become a touchstone of equal rights for Hispanics. As Flora Davis, a New York Times foreign correspondent, noted in a recent column: "Foreign-born children living here should be learning English, of course, and that as quickly as possible. But it is a pity for children born in this country to be consigned to the poverty of a single-language education. The need of all is for more, not less." (Halperin, 1981)

Flora Davis' point is irrevocable. In spite of this, the bulk of the American people would consider the application of her educational concept to be unnecessary, wasteful, and a fine example of the taxpayer's dollar support of a "frills" program in the public school system. The few who disagree consider it unfortunate for their children, their future, and the future of the nation that "while English-speaking children can benefit greatly from bilingual schooling, our greatest concern is with the programs for children from minority language backgrounds with limited English proficiency who frequently have a history of low educational achievement" (Troike, 1981, p. 498).

As for Flora Davis' dream to provide a two-language educational system for all children, the concept has never taken root in this country. Unless the present trend shifts drastically, universal bilingual education is very unlikely to ever receive the blessing of the American public. Transitional bilingual education (TBE), as is, is having numerous difficulties in being accepted by the majority of the American population. TBE programs, which constitute the majority of bilingual efforts in the U.S., aim to maintain the Anglo and minority language children at a comparable level of performance and achievement in the curricular subject areas such as social studies, mathematics, and science. This is attained by initially using the native language as a vehicle of instruction. Simultaneously, intensive English-as-a-Second-Language (ESL) courses are made compulsory. As soon as competency is attained in English, the children are ready for mainstreaming and using English as the language of their instruction. It is evident that the goal of TBE is to acculturate, to mainstream; not only into the regular classroom, but also to mainstream into the American way of life, while providing an educational, emotional, linguistic, and cultural support system in aiding the child to make a gradual and more comfortable transition. Separatist, it is not. What this treatment of the problem does produce, moreover, is a group of persons who may be more likely to stay in school (Johnson, 1967), become trained for more jobs, become more highly educated, feel better about themselves and their heritage, and be more likely to become responsible, self-supporting American citizens.

The dropout and low attendance rate of non-English-speaking and LEP Hispanics is staggering (Haro, 1977; Laosa, 1977; Lucas, 1974; Molina, 1975; National Advisory Committee on Mexican-American Education, 1968; National Center for Education Statistics, 1978; Troike, 1981). Dropout rates are still much higher for Hispanic than Anglo youths.

> The U.S. Department of Health, Education and Welfare reported that 25 percent of the Hispanic population in the United States between the ages of fourteen and twenty-five had not completed high school. The drop out rate for the entire population is 10 percent. Of those young people coming from homes where Spanish is the home language, 45 percent did not complete high school. (McHugh, 1981, p. 403)[3]

Research supports the belief that the programs which embrace educational philosophies compatible with those of bilingual education--as relating to teacher training, treatment of students, cultural awareness by the educational staff, student counseling, and other aspects of teaching and learning--yield a lower rate of dropouts and absenteeism (Balinsky, 1975; Cantu, 1979; Davis, 1973; Karr & McGuire, 1969; Lucas, 1974; Molina, 1975; National Advisory Committee on Mexican-American Education, 1968; Petrello, 1976; Rincón & Rose, 1974; Rodríguez, 1968; Soles, 1976; Stansfield, 1979). The decrease in the dropout rate resulting from the offer of bilingual education to potential dropouts will, in fact, save millions of dollars to the taxpayer in the long run.

No less important to the justification of this study is the fact that "the Spanish-origin population is a young population. The median age in March, 1977 was 22 years as compared with 30 years for the non-Spanish-origin population. Moreover, 42 percent of the persons of Spanish origin were under 18 years old as compared with 30 percent of those not of Spanish origin" (Fernández, 1979, p. 104). This age range description fits perfectly the population utilized in the investigation at hand. Since the Hispanic population is such a young and large one, it is worthwhile to invest energy and resources in its education and the future of its children. This study addressed the effectiveness of the bilingual education program in Hillsborough County serving children such as the ones described above. The research helped to determine if the program goals were being met, so as to either justify or not justify its existence and further funding.

In support of this study it should also be mentioned that the site selected is one which displays a marked Hispanic atmosphere due to its culturo-historic heritage. In the late nineteenth century, Hillsborough County, especially the Tampa area, was experiencing a period of unparalleled growth stimualted by several factors. One of the factors responsible for this growth was the establishment of the Ybor City cigar industry by Vincente Martínez Ybor. Ybor led the influx of cigar manufacturers to Hillsborough County, which was to result in Tampa becoming the world's largest cigar-producing area. Originally, Ybor's cigar works were located in Cuba, but with the outbreak of the Cuban Revolution in 1869, he decided to move his plant and workers to Key West, Florida. However, serious labor problems which continually threatened cigar production plagued Ybor's Key West operation. Ybor and his associates, Gavino Gutierrez and Ignacio Haya, decided at this time that the Tampa area would be an excellent location for their factories (Hillsborough County's Historic Heritage, 1974). This move brought many Spanish-speaking additions to Hillsborough, both from Cuba and from Spain. This stable settlement of Hispanics was considerable in size and was to remain in the area and maintain its customs, language, and culture, all evident even today. Ybor City's cultural heritage is reflected by the numerous architectural structures, traditions, and especially, civic and social groups and clubs established to meet the needs of its members. Institutions such as the Centro Asturiano (Asturian Center), Centro Español (Spanish Center), and Círculo Cubano (Cuban Club), reveal the ethnic makeup of Ybor City (Hillsborough County's Historic Heritage, 1974). Tampa Bay's first name, in fact, was Espíritu Santo (Holy Spirit).[4] With February, each year, comes the famed Gasparilla Pirate Invasion, Tampa's annual winter festival, based on the legend of José Gaspar, the Spanish eighteenth century pirate said to have maintained headquarters in the waters of the old Espíritu Santo, or Tampa Bay.

With its Spanish history and growing Hispanic population, the Tampa-St. Petersburg region has become the twenty-first ranked area in the nation influenced by Hispanic culture (Table 1). Its standing reveals, if considered in a

TABLE 1

TOP 30 HISPANIC AREAS OF DOMINANT INFLUENCE

Rank Order	City	Hispanic Population (000)
1	New York, N.Y.	2,329.8
2	Los Angeles, Cal.	2,256.8
3	San Antonio, Tex.	849.6
4	Miami, Fl.	767.4
5	San Francisco, Cal.	705.8
6	Chicago, Ill.	660.1
7	McAllen-Brownsville, Tex.	533.8
8	El Paso, Tex.	474.3
9	Albuquerque, N.M.	456.6
10	Houston, Tex.	459.4
11	Phoenix, Ariz.	311.6
12	Fresno, Cal.	298.6
13	Corpus Christi, Tex.	293.8
14	San Diego, Cal.	274.4
15	Sacramento-Stockton, Cal.	274.4
16	Dallas-Fort Worth, Tex.	257.0
17	Denver, Colo.	232.0
18	Philadelphia, Penn.	183.0
19	Tucson, Ariz.	182.1
20	Austin, Tex.	139.8
21	Tampa-St. Petersburg, FL.	133.2
22	Lubbock, Tex.	128.7
23	Salinas-Monterrey, Cal.	108.6
24	Laredo, Tex.	106.9
25	Odessa-Hidland, Tex.	104.2
26	Colorado Springs-Pueblo, Colo.	102.5
27	Washington, D.C.	100.0
28	El Centro-Yuma, Cal.-Ariz.	79.5
29	Detroit, Mich.	70.8
30	Waco-Temple, Tex.	67.7
	TOTAL	12,955.6

Source: (Adapted from Watanabe, 1981, p. S-24)

Floridian context, that numerically, the area falls second only to Miami. However, if considering ratio of total population to Hispanic, the Tampa-St. Petersburg area is comparable to Miami in Hispanic population concentration, and Miami holds an impressive fourth place at the national level.

Another justification for a study of this nature is the significant national and state-wide number of persons whose future it may influence.

> Will there be large numbers of Hispanics? Conservative estimates, which do not include undocumented Mexicans, place the Hispanic population in the U.S. at more than 12 million and increasing rapidly. Some demographers predict that by 1990 Hispanics will replace Blacks as the largest minority group in the U.S. (Long, 1981, p. 619)

According to the latest findings of the 1980 census, Hispanics comprise 6.4 percent of the U.S. population, a total of 14,605,883 (as appearing in "The swelling ranks of blacks and Hispanics," U.S. News and World Report, May 4, 1981, p. 46). Futurists predict more of the same, but with even greater intensity (Figure 1).

Figure 2 presents the current breakdown of the percentage of the Hispanic population by state.

Table 2 shows the eight top-ranked states with the highest number of Hispanics, together with their respective 1980 Hispanic population figures and their percentage of the total population. Florida ranks seventh, registering 8.8 percent Hispanics and a total of 857,898.

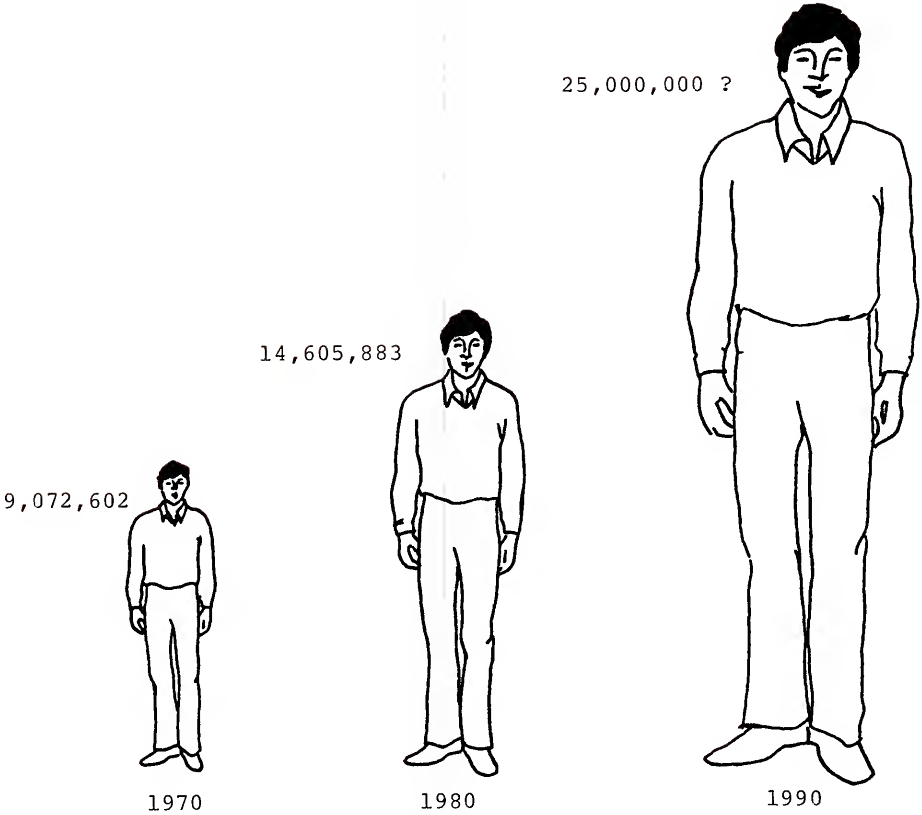


Figure 1

Hispanic Population Growth in the U.S.

Source: (Watanabe, 1981, p. S-1)

Drawing by courtesy of Dolores Jenkins

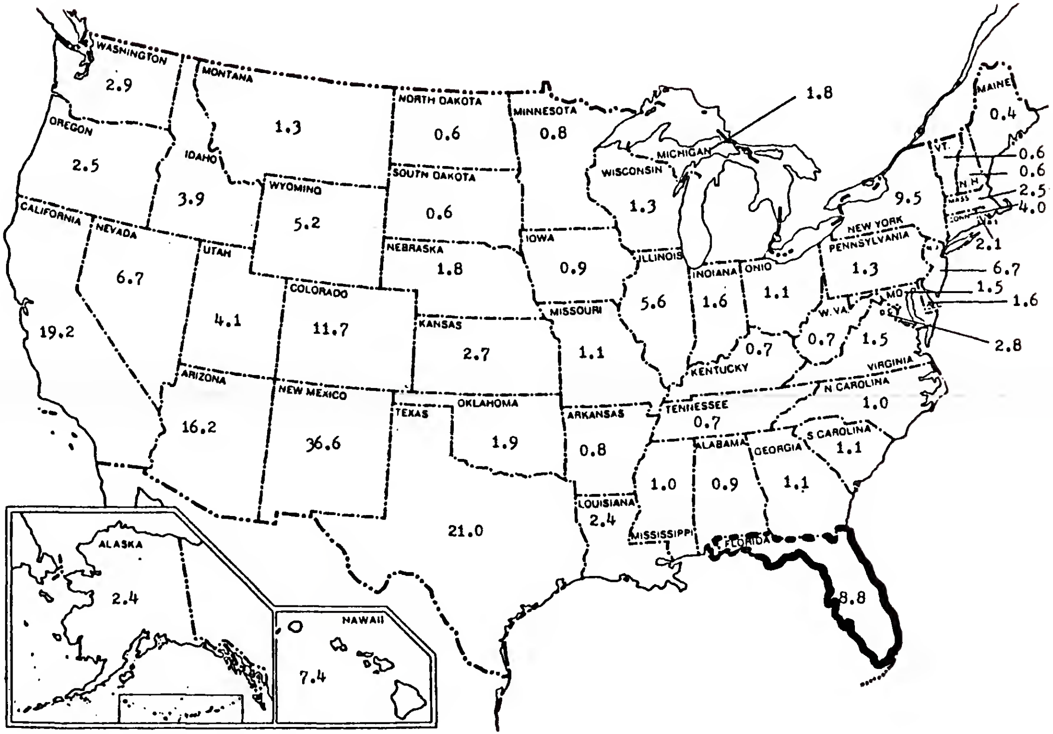


Figure 2

Percentage of Hispanics by State

Source: ("The swelling ranks of Blacks and Hispanics," U.S. News & World Report, May 4, 1981, p. 46)
Cartography by courtesy of Dolores Jenkins

TABLE 2

THE EIGHT STATES WITH THE HEAVIEST CONCENTRATION OF HISPANICS (By Rank Order)

Rank Order	State	1980 Hispanic Population	Percent of Total Population
1	New Mexico	476,089	36.6
2	Texas	2,985,643	21.0
3	California	4,543,770	19.2
4	Arizona	440,915	16.2
5	Colorado	339,300	11.7
6	New York	1,659,245	9.5
7	Florida	857,898	8.8
8	Hawaii	71,479	7.4

Source: ("The swelling ranks of Blacks and Hispanics," U.S. News & World Report, May 4, 1981, p. 46)

Figure 3 offers a breakdown of the percentage of the Hispanic population by each Florida county. Note that Hillsborough County, the target area for this study, enters a high 10 percent of Hispanic population, ranking sixth in the state.

Table 3 gives the six top-ranked Florida counties, in order.

Of particular pertinence to Florida is the meaningful number of Cubans who have made the state their home since Fidel Castro came to power in 1959.

> From 1959 until 1965, 190,000 Cuban refugees escaped to Miami. Approximately 48,000 of them settled in other parts of the United States, leaving 142,000 in Miami. Freedom Flights from Cuba began in 1965 and ended in 1973, bringing 260,561 to Miami. Of those, about 30 percent stayed in Miami. The most recent influx of Cuban refugees occurred between April 21 and September 15, 1980. During that time, 123,825 refugees entered Miami from Mariel, Cuba. (Flores, 1981, p. 43)

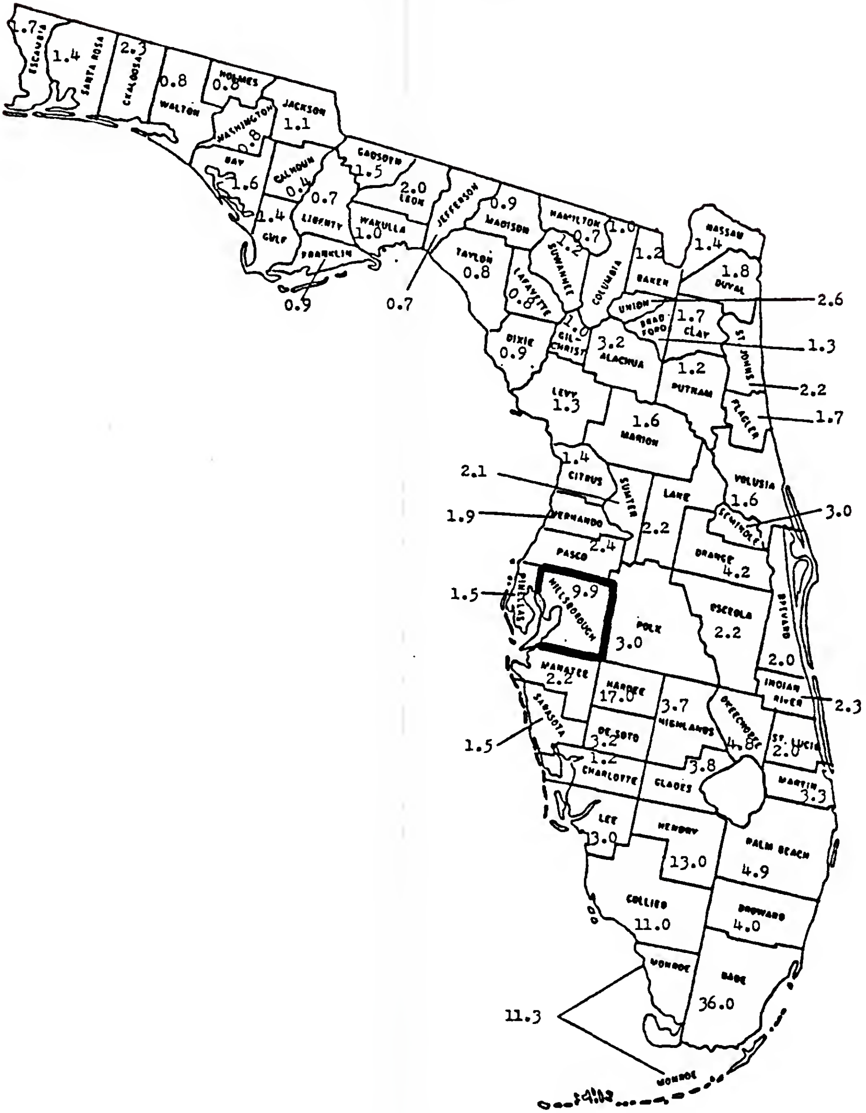
Because of the overpowering implications that such numbers carry, the conducting of this investigation was justified. It became socially, economically, instrumentally, and educationally crucial to focus research efforts on the instructional effectiveness for this group (see Appendix A for further documentation regarding Hispanic population growth in the U.S.).

Assumptions

The following assumptions are made regarding this study:

Figure 3

Percentage of Hispanics in Florida by County
(To the Nearest 10th of a %)



Source: (U.S. Bureau of the Census, 1980)
Cartography by courtesy of Dolores Jenkins

TABLE 3

THE SIX FLORIDA COUNTIES WITH THE HEAVIEST CONCENTRATION OF HISPANICS (By Rank Order)

Rank Order	County	Percentage of Total County Population
1	Dade	35.7
2	Hardee	16.7
3	Hendry	12.8
4	Monroe	11.3
5	Collier	10.8
6	Hillsborough	9.9

Source: (U.S. Bureau of the Census, 1980)

1. The county computer records used for identifying the sample population are accurate.
2. The information provided by the county personnel is correct.
3. Student scores for the Comprehensive Tests of Basic Skills (CTBS) and Short Form Test of Academic Aptitude (SFTAA) are retrievable.
4. The CTBS and SFTAA are appropriate, accurate, valid, and reliable instruments for the purposes of measuring student reading, language arts, and mathematics skills and academic aptitude, respectively.
5. The CTBS and SFTAA are not linguistically or culturally biased to such a degree that they would be rendered invalid when administered to the study's target population.
6. The Crane Oral Dominance Test (CODT) used in the county to diagnose the student's language dominance yields accurate, reliable, and valid measures of English proficiency.
7. Any significant differences in scores between and/or among groups resulted only from differences in treatment (Bilingual vs. Regular Programs) once the independent variable controls made available by the county were applied.
8. Students in each target grade (3rd, 5th, 8th) have approximately the same chronological age.

9. The process of program self-selection, after all the available controls have been applied, will not significantly bias the sample.
10. Lunch Category (A: Reduced Lunch; B: Free Lunch; C: Regular Lunch) is the most valid measure of the socioeconomic status (SES) of the student's home made available.
11. The information gathered is representative of the sample from which it was drawn.

Definition of Terms

The following terms are defined in relation to their use in this study:

1. Title VI of the Civil Rights Act of 1964. This Equal Protection Clause of the bill states that

> no person in the U.S. shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (U.S. Commission on Civil Rights, The Federal Civil Rights Enforcement Effort, 1970, pp. 180-250, complete)

2. Lau vs. Nichols Case. A landmark case in bilingual education. A case suit brought against the San Francisco Unified School District in 1970 by approximately 1800 non-English speaking Chinese students who argued that their school system failed to provide them with adequate instructional procedures which would make their education effective and equal. School officials were therefore charged with violation of Section 601 of the Civil Rights

Act of 1964 on the grounds that discriminatory treatment denied these children a meaningful opportunity to participate equally in the public education program. The lower court decided against the plaintiffs, but the Supreme Court, in a unanimous decision, reversed this judgment on January 21, 1974, upholding the interpretative guidelines recommended by HEW four years earlier.

3. Lau Remedies. The 1975 product of HEW's interpretation of the law as delivered by the U.S. Supreme Court's decision concerning the Lau vs. Nichols Case.
4. Lau English Proficiency Categories (LEPC's). As a result of the Lau Remedies, this set of English language proficiency categories was established so as to facilitate the consistent identification and classification of students at the time of entry into and exit from a bilingual program. (See Appendix B for a complete scale of Categories A through E and their respective specifications.)
5. Bilingual. Any person who is classified in LEPC-C (C_1 or C_2).
6. Monolingual. Any person who is classified in LEPC-A, B, D, or E.
7. Anglo. A student, "not necessarily of Anglo-Saxon blood or background, whose first (family) language is English" (von Maltitz, 1975, p. xi) and who would be identified with the ethnic category of "white."

8. Spanish/Hispanic Origin or Descent.

> A person is of Spanish/Hispanic origin or descent if the person identifies his or her ancestry with one of the listed groups; that is, Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, or other Spanish/Hispanic. Origin or descent may be viewed as the nationality group, the lineage, or country in which the person or the person's parents or ancestors were born. (*Census Guide*, 1980, p. 4)

The term "Hispanic origin" or "Spanish origin" does not deal with language dominance or proficiency, nor does it deal with anthropological race.

9. Transitional Bilingual Education (TBE). An educational program where two languages are being used in instruction and whose goal is ultimately to prepare its students for transfer into the Regular or English monolingual program, once they become sufficiently proficient in English to function in that classroom. TBE, by definition and in contrast to Maintenance Bilingual Education (MBE), offers no explicit provision for permanent retention or support of the native language and/or culture throughout the entire education of the student. The Hillsborough County Bilingual Program is transitional.

10. Waiver. Refers to a student who qualified for Bilingual Program enrollment but whose parents refused this option by requesting that he/she be mainstreamed into the Regular Program instead. The Regular Program subjects in this study are all waiver students.

11. Transition. Refers to a student who entered the Regular Program after having participated in the Bilingual Program and acquired sufficient English language proficiency to function in an English monolingual setting.

12. Bilingual Program Students. These students were LEPC-A three years ago in 1977, and thus at the time qualified for enrollment in the Bilingual Education Program. The parents chose the Bilingual Program option. The children progressed from monolingual (Spanish) to bilingual (English and Spanish), while receiving the services of bilingual instruction in their curricular subjects. In March 1980, the time of CTBS and SFTAA testing, and after three years of Bilingual Program enrollment, these students were ready to be mainstreamed into the Regular Program.

13. Regular Program Students. These students were LEPC-A three years ago in 1977, and thus at that time qualified for enrollment in Bilingual Education. The parents waived this option and the children received no bilingual instruction. They were enrolled in the monolingual English (Regular Program) classes. These subjects have been in the Regular Program for three consecutive years, a period which expired at the time of testing, which was March 1980.

14. Native Language. The first language spoken by a student; the principal language of the home.

15. Culture. The anthropological dynamics resulting from the composite of behavior, norms, values, mores, manners, customs, heritage, music, history, and all other idiosyncratic specificities that characterize a people or ethnic group and are traditionally inculcated in the young of that group.

16. Native Culture. The culture of the home where the student was nurtured.

17. Limited English Proficiency (LEP) and Limited-English-Speaking-Ability (LESA). A student whose poor understanding of English interfered with his/her opportunity to learn successfully in classrooms where English is the exclusive language of instruction.

18. Low Socioeconomic Status (LSES). A student who qualifies for either Reduced (Lunch Category A) or Free (Lunch Category B) in Hillsborough County.

19. Reading Achievement. A measure of ability and performance in reading, as reflected in the total score obtained from the two CTBS reading subtests: reading vocabulary and reading comprehension.

20. Language Arts Achievement. A measure of ability and performance in language arts, as reflected in the total score obtained from the three CTBS language arts subtests: spelling, language mechanics, and language expression.

21. Mathematics Achievement. A measure of ability and performance in mathematics, as reflected in the total score obtained from the two CTBS mathematics subtests: mathematics computation and mathematics concepts and application.

22. Measure of Academic Aptitude. One of a series of summary and derived scores obtained from the four subtests of the SFTAA. This measure is a traditional Intelligence Quotient (IQ) score, obtained by dividing the raw/actual score (mental age) by the student's expected score (chronological age in months).

$$IQ = \frac{\text{Actual/Raw Score}}{\text{Expected Score}} = \frac{\text{Mental Age}}{\text{Chronological Age in Months}}$$

> It is a form of normalized standard score with a mean of 100 and a standard deviation of 16 based on school students in a particular age group. The IQ score should be interpreted as an index of a student's mental ability in relation to his age mates who are enrolled in school. (*SFTAA Examiner's Manual*, 1970, Level 2, p. 35)

In this study, the term "a measure of academic aptitude" was used in lieu of "IQ" score.

Null Hypotheses

The following null hypotheses were tested in this study:

1. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS reading section.

2. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 5, as measured by the result scores of the CTBS reading section.
3. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS reading section.
4. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS language arts section.
5. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 5, as measured by the result scores of the CTBS language arts section.
6. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS language arts section.
7. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS mathematics section.
8. There is no significant difference between the Bilingual and Regular Education Program groups in achievement

performance for grade 5, as measured by the result scores of the CTBS mathematics section.

9. There is no significant difference between the Bilingual and Regular Education Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS mathematics section.
10. There is no significant difference between the Bilingual and Regular Education Program groups in mental ability performance for grade 3, as measured by the result scores of the SFTAA.
11. There is no significant difference between the Bilingual and Regular Education Program groups in mental ability performance for grade 5, as measured by the result scores of the SFTAA.
12. There is no significant difference between the Bilingual and Regular Education Program groups in mental ability performance for grade 8, as measured by the result scores of the SFTAA.

Limitations

The CTBS subtests of reading, language arts, and mathematics yield both scale and percentile scores. The SFTAA includes four subtests which measure vocabulary development, logical reasoning, education of quantitative relations, and meaningful memory. A variety of summary and derived scores can be obtained from the latter, but the only one made available for this study was the one termed "IQ," hereafter "a measure of academic ability." It is the researcher's conviction that IQ score use is too often abused in education and by society, needlessly traumatizing many children whose most important index of ability and potential is believed to be this measure. This is particularly true when exclusive weight is placed on its result and the student is not given the benefit of various additional testing situations, instruments, and experience. Too often, this type of test is predicated on reading ability. Is reading ability, then, synonymous to IQ? Is the IQ test measuring IQ (intelligence, by some valid measure), or is it measuring reading ability, and, in turn, is this reading ability measure called IQ? In many of these cases the children are doomed to carry that stigma for the rest of their lives.

However, the limitations suffered by this or any other IQ test are excluded from the scope of this dissertation. Furthermore, the fact that two Hispanic groups are being compared, rather than Hispanic and Anglo, diminishes this limitation to some extent.

The limitations that would be inherent in the construction and administration of the CTBS and the SFTAA are carried over to this study. Resulting from the use of standardized tests as instruments in this investigation, the limitations related to instrument selection that would characterize any other study employing the same tests characterize the one at hand. The CTBS and SFTAA scores were interpreted herein as merely one index out of many which would be considered to be a plausible alternative for assessing students.

It was not possible to obtain a pretest score which could have been used as a covariate. The only preprogram or pretreatment enrollment measure known was the indication that three years ago all the sample students performed at an English proficiency level warranting placement in LEPC-A; however, no numeric grade of the language test administered was available.

No grade point average or school attendance records were accessible at the time of data collection.

The extent to which the findings of this study can be generalized is limited to a population similar to that from which the sample was drawn.

Notes

1. The President's Commission on Foreign Language and International Studies devoted one year, starting October 1978, to the intensive evaluation of the state of foreign language and international studies and their impact on the nation's internal and external strength. The Commission also concluded that if the current trend continues, it will diminish the chance to compete in international trade, as well as encourage international political misunderstandings and complications. The Commission offers 130 recommendations in an effort to combat the deplorable present state of affairs.

2. Other sources claim that the first emergence of an anti-bilingualism movement started as early as 1915, when second- and third-generation citizens in the U.S. shunned the language of the Old Country. This issue is discussed in Chapter II.

3. Additional documented support for the existence of the high Hispanic dropout rate has already been presented on page nine.

4. Tampa Bay (Espíritu Santo) was recorded to have first been entered by the Spaniard, Narvaez, in 1528 (Morris, 1974).

CHAPTER II

REVIEW OF THE LITERATURE

In reviewing the literature concerning bilingual program evaluation, it is pertinent to examine several areas relevant to the topic under investigation. In order to discuss these areas, this chapter is divided into the following principal sections: (a) evolution of bilingualism and bilingual education public opinion, (b) types of bilingual education program evaluations, (c) brief history of bilingual education in the U.S., (d) the need for sound bilingual education program evaluation research, (e) Zappert and Cruz: model set of bilingual education program evaluation criteria, and (f) summary.

Evolution of Bilingualism and Bilingual Education Public Opinion

Outcome evaluation in bilingual education has been fraught with controversy since the beginning of this century. Early evaluations seemed to show that being bilingual had detrimental effects upon a person. Or, at least, such were the conclusions reached by research addressing the subject. A closer look at these studies, however, throws a different light on the issue. How rigorous was the control of variables as critical as SES? How was the sample selected? What evaluation instruments were administered to the monolingual and bilingual groups? These and many other questions should be seriously considered when analyzing these historic bilingualism studies which follow, and all of which were reported in Lambert and Peal (1972).

Saer (1923), in a study comparing monolingual and bilingual children in Wales, produced data which indicated a statistically significant difference between them on verbal intelligence and which not only showed the bilinguals to be inferior, but also declared that the gap widened each year from 7 to 11 years of age. It should be noted that SES was not controlled in this research and that a Welsh translation of the Stanford-Binet test was used.

Pintner (1932) conducted a study in New York City which exemplifies much of the early research on bilingualism. After administering the Pintner Language and Non-Language Tests in three schools, he found that in one school the monolinguals excelled on both tests, in another school they were inferior on both tests, and in a third school there was no significant difference between the two on either test. He had no control for SES, and the samples were chosen strictly on the basis of the children's surnames.

One of the most important studies was the one by Jones and Stewart (1951). After surveying the studies done prior to 1951 in Wales, they concluded that bilingual and monolingual groups differed little in nonverbal intelligence tests and that monolingual groups were usually superior to bilingual in verbal tests. The design of their experiment was based on these conclusions. A verbal test and a nonverbal test were given to monolingual and bilingual groups in rural districts. The children were between 6.10 and 6.11 years of age. The monolinguals were found to score significantly higher on both types of tests. The two groups were equated statistically, by analysis of covariance, on nonverbal IQ and the differences between them on verbal IQ were then noted. The conclusion was reached that the children who were bilingual were significantly inferior to those who were monolingual, even after taking into consideration the initial difference in the nonverbal intelligence tests (Jones & Stewart, 1951). However, Lambert and Peal (1972), upon reviewing this study, note that it could be argued that the bilinguals may have encountered greater difficulties because for them the tests were translated into Welsh, their vernacular, but not standardized in the Welsh culture. This may have lowered their scores on the verbal test. On the other hand, this would not account for the original difference in nonverbal IQ. After further investigations, Jones later conceded that the significant difference in nonverbal test scores observed in all his studies may have arisen from occupational rather than linguistic variations between the groups (Lambert & Peal, 1972). Thus, the complete work of Jones and his collaborators, according to James (1960), emphasized the importance of SES factors when comparing groups of monolingual and bilingual children and interpreting results.

It is interesting to note that in a subsequent article, Jones (1960) criticized a study published by Lewis (1959) for his inadequate treatment of SES. Lewis had reported a statistically significant difference in favor of the monolinguals corresponding to about eight IQ points on a nonverbal intelligence test. Apart from his failure to control for SES, Lambert and Peal (1972) tell us that his method of selecting his groups was an improvement over previous studies. He assessed the linguistic background of 10-year-old children by means of a language questionnaire and attempted to make each group as homogeneous as possible.

Several other early studies (Graham, 1925; Mead, 1927; Rigg, 1928; and Wang, 1926) also reported that monolingual American groups performed better than children with various foreign backgrounds on intelligence tests. All of these studies lacked controls for age and SES, and in some, bilingualism was not adequately measured (Lambert & Peal, 1972).

Another investigation from which generalizations should not be made is that by Altus (1953). The two groups used were composed of so-called "dull" schoolchildren. The two groups were controlled for sex, age, and the IQ performance level based on the Wechsler Intelligence Scale for

Children (WISC). The differences in IQ on the verbal scale averaged 17 points, favoring the monolingual group. Altus concluded that linguistic difficulties interfered with the normal verbal process in the bilingual group.

Indicative of the early research on the subject is a study conducted by Mitchell (1937). The subjects were students in the first, second, or third grade with at least one parent being Mexican. The children were administered the Otis Group Intelligence Test Forms A and B. One of these forms had the instructions translated into Spanish. One half of the students received the Spanish instructions first. At least ten days later the children were retested on the other form, with instructions in the other language. Mitchell believed that this design was to indicate whether bilingualism has an appreciable effect on children's ability to think with equal accuracy and facility in either language. From the results of this study and its descriptive statistical analysis, Mitchell concluded that bilingual children work under a serious handicap (Mitchell, 1937). At best, he states that the children displayed more intelligence in Spanish than in English, but that they appeared to be losing ground in both. It should be noted that in the Mitchell (1937) study bilingualism was measured by lineage and not by the performance of the child in the two languages. It is therefore quite possible that the children were not even bilingual.

Other detrimental effects of bilingualism reported well surpassed the academic and cognitive realms. Weinreich (1966) reports that bilinguals were not only accused of low intelligence, "conceptual poverty," and intellectual handicap, but also of other psychomotor and social ill effects such as developing stuttering and left-handedness, the latter which was once considered to be socially unacceptable. Most probably these criticisms referred to the perfectly balanced bilingualism state, where the person functions natively in both language and cultural contexts regardless of how different they may be. Reports as drastic as those claiming that bilingualism produced conditions such as "bilingual schizophrenia" and "mercenary relativism" (Michaelis, cited in Weinreich, 1966) were circulated. The public heard these and never stopped to question how these conclusions regarding bilingualism were reached and if any flaws were present in the designs of the studies. It could be left unsaid as to what effects these conclusions had upon any efforts to propose bilingual education.

Such early studies of bilingualism did not apply sufficient controls and were lacking in scientific rigor. Lambert and Peal (1972) report,

> It becomes apparent that it is necessary to control certain variables in this type of study before any conclusions can be drawn. (p. 118)

Regarding the invalidity of the early reports, Segalowitz (1977) remarks,

> The early findings tended to show that bilingual children attained lower scores than monolinguals on tests of verbal intelligence while they did not differ on tests of nonverbal intelligence. . . . It is important to realize, however, that most of these early studies were marred by fundamental methodological flaws. Often no attempts were made to control for differences between bilinguals and monolinguals in social class background or to measure the language proficiency of the bilingual, especially in the language of the intelligence test itself. (p. 136)

Due to the fact that many of the bilinguals who were tested were children coming from homes where their families had relatively little formal education and were often from LSES environments, it is easy to see how factors other than bilingualism could influence test performance. When SES and ethnic differences exist in a study of this nature, factors such as expectations of the students taking the test, familiarity with test-taking procedures, cognitive style reflected by the test instrument, identity of the tester, procedures and community expectations, cultural inappropriateness of the test content, language of the test, and test atmosphere become critical determiners of the test outcomes (Ramírez, Macaulay, González, Cox, & Pérez, 1976; Segalowitz, 1977). Various well-respected investigators have conducted ample research regarding the effects of these factors on test taking (Anastasi, 1968; Jones, 1966; Lambert & Peal, 1972; Richardson & Spears, 1972).

Surely the student is not an isolated island in the midst of a classroom. This child is a multifaceted, multitalented, multisensory being, constantly being bombarded by external cultural, linguistic, and social stimuli and influenced by all the environmental and ecological factors that surround his/her world. Lewis, Collazo, Nelson, Soar, Thomas, Hackett, Harrison, Singleton, and Troup (1978) propose a visual rendition of an ecological model for education (Figure 4), the learner being in the center of the wheel, subject to and touched by all the levels of external influences that are stratified within the radius of the wheel (p. 6). Addressing this same topic of factors influencing the learner as well as the issue of academic success or failure, so often measured by an intelligence test, Lewis, Hackett, Harrison, Singleton, and Soar (1978) state,

> Academic achievement is computed from grade point averages and scores on academic tests. Academic ability is measured by some type of intelligence test. Scores on these measures made by children from low socio-economic families and/or from minority groups are depressed for two reasons. First, the tests are often culturally biased in favor of the majority groups; second, the environment (ecology) in which a child develops has a strong influence on academic achievement and I.Q. test scores. (p. 57)

Although the date of the preceding quote may be somewhat removed from the early studies of bilingualism previously reviewed, the message is timeless. These same remarks could well refer to the bilingual children who were the subjects of the early studies and whose intelligence was measured by tests which were administered in the midst of a plethora of confounding variables.

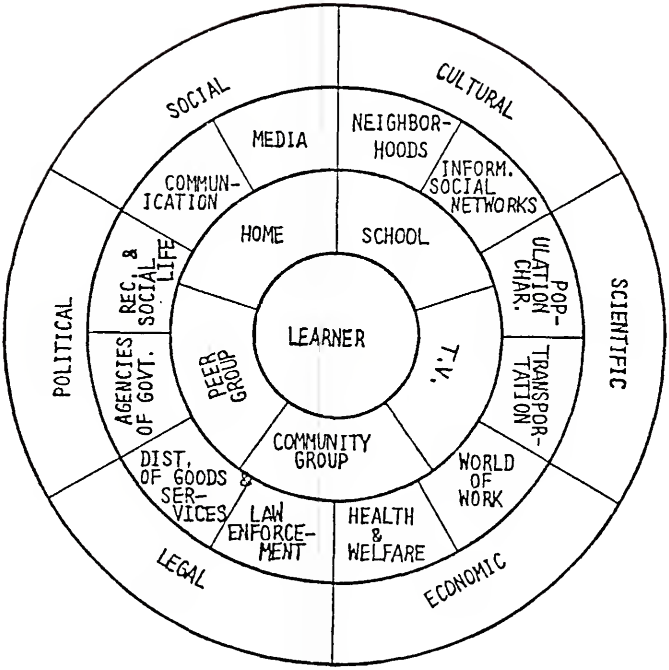


Figure 4

An Ecological Model for Education

Source: (Lewis, Collazo, Nelson, Soar, Thomas, Hackett, Harrison, Singleton, & Troup, 1978, p. 6)

The advent of sociolinguistics in the early 60's added an element of sensitivity and hope to the situation. One of the major initiators of this field and its current theory regarding the effects of society upon language, language learning, and intellectual development is Joshua A. Fishman. Fishman (1972) clearly discusses and argues in favor of the importance of an interdisciplinary approach to the study of language. His work in sociolinguistics served to further bring to the fore the influences of social, political, cultural, and attitudinal factors which compose the dynamics of the sociolinguistic phenomena. Along these lines, he makes an interesting point:

> Bilingualism has been a characteristic of political and cultural elites throughout world history. Skilled and cultured tutors or companions have been and are still being employed to impart a native, coordinate grasp of "other tongues" to the children of the wealthy and the culturally sophisticated. Both of the languages mastered by these children, their mother tongues and their "other tongues," are commonly learned in contexts of respect, literacy, and fluency. Where this is not the case, where the vernacular of an elite suffers in comparison with some superposed language, no implication of low intelligence or of low verbal aptitude is drawn from the fact that the elites and their children are rather limited in the mastery of their vernacular. . . . Certainly, where everyone is of similar class and of similar bilinguality no substantial relationship between bilingualism and intelligence is possible.
>
> Similarly, it is only to be expected that individuals who are socialized in verbally unstimulating and non-communicative environments will develop less verbal proficiency, whether they are monolingual or bilingual. They will necessarily score lower on verbal tests of ability and, frequently, will score equally low on conceptual tests of any kind, since their environments are so experientially impoverished and since most non-verbal concepts are frequently

> facilitated by verbal mediators. If, in addition, such individuals should be tested for verbal ability in an "other tongue" with which they have only limited experience (limited in every way: in domains, in role-relations, in topics, in media, in roles and in situational styles) we are merely adding insult to injury or irrelevance to impertinence. (Fishman, 1965, p. 236)

In addition to Fishman's scholarly contribution, it was the publication of a study conducted by Lambert and Peal in 1962[1] that revolutionized the public's opinion of bilingualism and opened new horizons for the potential acceptance of bilingual education. This landmark study dramatically turned around the commonplace belief that bilingualism, and particularly, dual-language instruction, was detrimental to the development of healthy, intelligent, normal children.

Lambert and Peal (1972) produced a study which was rigorously designed, "the important variables to control seem to be socioeconomic class, sex, degree of bilinguality, age, and the actual tests used" (p. 118). The results of this research project were totally unsupportive of the earlier conclusions of handicaps for bilinguals. "Contrary to previous findings this study found that bilinguals performed significantly better than monolinguals on both verbal and nonverbal intelligence tests" (p. 154). In describing their conclusions regarding the bilingual child, they report,

> Intellectually his experience with two language systems seems to have left him mental flexibility, a superiority in concept formation, and a more

> diversified set of mental abilities, in the same sense that the patterns of abilities developed by bilinguals were more heterogeneous. (Lambert & Peal, 1972, p. 154)

From this study, Lambert and Peal also considered the issue of the effect of bilingualism beyond the IQ score. They formed a hypothesis that bilinguals have a different structure to their intellect than monolinguals and that this structure is the result of different learning experiences. Their rationale is drawn from the theories of Guilford, who both conceived and set forth a tri-faceted theoretical model of the "Structure of Intellect" (Guilford, 1956) and other researchers, who proposed the thesis that human abilities are learned. It is possible that the bilingual is open to a wider range of cultural, linguistic and Weltanschauung or "world-view" à la Whorf (Whorf, 1956, p. 58) experiences by the differences afforded by two languages; it follows that the bilingual may have a more complex, more divergent, possibly more creative context in which to learn intellectual abilities.

The majority of rigorous studies which followed Lambert and Peal's 1962[2] research suggested in most cases the intellectual superiority of bilinguals over monolinguals, in other cases the determination that there was no significant difference between the relationship of bilingualism to intelligence (Balkan, 1970; Ben Zeev, 1972; Bowd, 1974; Cohen, Tucker & Lambert, 1967; Cummins, 1976; Feldman & Shen, 1971; Heras & Nelson, 1972; Ianco-Worrall, 1972; Jacobs &

Pierce, 1966; Lambert, Tucker, & D'Anglejan, 1973; Landry, 1974; López & Young, 1974; MacNamara, 1970; Ramírez, Macaulay, González, Cox, & Pérez, 1976).

This "difference in findings reflects a new social movement that has started in America in the interval between 1943 and 1962, a movement which the American linguist Charles Hockett humorously refers to as 'a reduction of the heat under the melting pot'" (Lambert, 1972, p. 200). This positive wave created a more receptive atmosphere in which the concept of bilingual education could develop. But the way was yet not clear. The study of bilingual education programs has also encountered numberless and bitter attacks, often due to the same defects in the research designs of the studies that set out to evaluate them. This is the theme on which this study is based.

Types of Bilingual Education Program Evaluations

Andrew D. Cohen (1978) tells us that there are two principal ways in which bilingual education programs for the Spanish-speaking have been evaluated. One addresses the issue of whether children enrolled in bilingual education reach curriculum objectives or tasks defined by the project staff. This form of evaluation provides feedback regarding instructional objectives within a program as to whether they have been met. A. Cohen points out, however, that the reader of this type of evaluation may be left wondering whether the objectives were appropriate in the first place.

The other approach addresses the issue of whether students participating in such programs have a more rewarding school experience than comparable counterparts attending traditional schools. This form of evaluation provides feedback regarding the effectiveness of bilingual education as compared with monolingual schooling.

Brief History of Bilingual Education in the U.S.

Although bilingual instruction has been the focus of much public attention in recent years, it is by no means a new educational concept in the U.S. Even before World War I, many language groups instituted various forms of bilingual education in both private and public schools: Spanish in New Mexico, German in the Midwest, French in New England and Louisiana. More significantly, certain language groups chose to establish monolingual schools in which the native language was the primary instructional medium, with English taught only as a subject.

With the coming of World War I and an intense rebirth of fervor, instruction in languages other than English was considered by many to be unpatriotic. There were times when such instruction was banned and declared unlawful. Nevertheless, by mid-century, many schools in various parts of the country began turning to bilingual education as an attempt to meet the educational needs of the children they served. Given the culturo-linguistic history of this nation, it is not difficult to appreciate these needs and to recognize the critical problems arising in trying to fulfill them.

Dade County in Florida and New York City began implementing formal programs in the 60's. At the same time, several districts in the Southwest began reinforcing and expanding the already existing dual-language programs, programs that had been dormant or underutilized for many years. These efforts added impetus to bilingual education in the U.S., as it experienced a wave of rejuvenation. Consequently, programs multiplied rapidly in the 60's and 70's (B. Cohen, 1979), and are projected to maintain the pace of growth in the 80's.

Back in the mid-sixties, even the most lucid U.S. social historian would have had difficulty prophesizing that Title VI of the Civil Rights Act of 1964 would become a dynamic and explosive weapon for the ethnic and linguistic minorities in their battle to produce bilingual education programs and gain equal schooling opportunities for their youth.

In the year 1967, Congress added the Title VII Bilingual Education Act to the already in progress Elementary and Secondary Education Act (ESEA). This was both a politically and socially meaningful event, since this amendment marked the first time in the then 191-year-old history of the U.S. that the issue of language minorities had been addressed (Zappert & Cruz, 1977).

It was not until January 21, 1974, that the U.S. Supreme Court agreed to hear a language case based on denial of equal access to education, the Lau vs. Nichols Case. In a landmark, revolutionary decision, the court decided in favor of the plaintiff, ruling that

> there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education. (414 U.S. 563, 566)

Ever since their very inception, bilingual education programs have never ceased to be the center of controversy.

The Need for Sound Bilingual Education Program Evaluation Research

In contrast with the dramatic need, A. Cohen (1978) reports that "there are few thorough evaluations of U.S. Spanish-English bilingual education programs as compared to English programs in the literature" (p. 33). To conduct a comparative study requires a comparison group and hence involves all the problems associated with finding comparable students, arranging and executing a testing program, and analyzing the results.

To be sure, not a great deal of quality research has been conducted in the field of bilingual education (Blanco, 1977). Ramírez, Macaulay, González, Cox, and Pérez (1976) state that the areas which display the highest priority for research include longitudinal studies of existing bilingual programs to determine what contributes to their success and failure. In fact, "the adoption of a longitudinal, multivariate approach to studying the effects of bilingual education on student performance is long overdue" (Zappert & Cruz, 1977, p. 40). They note,

> one important consideration has been conspicuously absent from the research reviews to date: a systematic assessment of the quality and applicability of the research to a discussion of the effects of bilingual education on student performance. (pp. 2-3)

It is a pity that a nation which traditionally characterizes itself by objective, planned, and rational decision-making should allow bureaucracy and blind faith to steer its expenditures disproportionately against the most sorely needed areas of funding allocation in the field of bilingual education. "Although over half a billion dollars have been spent on bilingual education since 1968, less than one half percent has been spent for research" (Troike, 1978, p. i). Research should, in fact, become a funding priority in this rapidly emerging field since it is so vitally needed for improving the quality of its programs. Furthermore,

> it is conceivable that the results of highly effective bilingual education programs were obscured by poorly designed and/or executed project evaluations. Without rigorous, uniform application of objective evaluation criteria, the quality of research in bilingual education is unlikely to be improved. Such improvements are of critical importance, as the effectiveness of bilingual programs can be adequately assessed only through methodologically sound research. (Zappert & Cruz, 1977, p. 40)

Andersson and Boyer (1978) go on to denounce inadequate evaluation as one of the greatest weaknesses of some of the early bilingual programs. They report that in 1973 and 1974 the General Accounting Office (GAO) of the U.S.,

> pursuant to the Budget and Accounting Act of 1921 (31 U.S.C. 53) and the Accounting and Auditory Act of 1950 (31 U.S.C. 67), conducted a study of the Bilingual Education Program by reviewing sixteen individual projects in Arizona, California, Colorado, Louisiana, Massachusetts, Montana, New Mexico, New York, and Texas. The program was selected for auditing because "it represents the largest and most distinct Federal assistance for meeting the special educational needs of limited English-speaking children." The review sought to identify effective bilingual education approaches, adequate teacher-training procedures, the development of suitable instructional materials, and positive effects of the program on participating students. (p. 40)

Andersson and Boyer continue,

> the result of this study was evident in the report's title: Education: An Unmet Need. A summary of the GAO's findings highlight the program's drawbacks:
>
> > Because adequate plans were not made to carry out, evaluate, and monitor the Bilingual Education Program, the Office of Education has progressed little toward
> > --identifying effective ways to provide bilingual education instruction,
> > --adequately training bilingual education teachers, and
> > --developing suitable teaching materials.
>
> No comprehensive information is available on the program's effect on students' academic progress, but the Office of Education has contracted for a national evaluation on this. Local project evaluation reports have been inadequate and of little use to local and Federal decisionmakers. (pp. 40-41)

The national evaluation of bilingual education mentioned in the GAO findings was assigned to the American Institute of Research (AIR) in Palo Alto, California. This has probably been the most publicized, least respected, national-scale federally-funded evaluation of bilingual education. It was conducted in 1977 and is commonly known as the AIR study.

> The Office of Planning, Budgeting and Evaluation (now the Office of Evaluation and Dissemination) of the U.S. Office of Education contracted with the AIR in 1974 to conduct an "impact" study of the ESEA Title VII Bilingual Education Program. A national evaluation of the ESEA Title VII had never been conducted before since the inception of the program in 1968. (The Fourth Annual Report of the National Advisory Council on Bilingual Education, 1978-1979, 1979, p. C-3)

The results of the AIR study were highly indicative of ineffectiveness in the implementation of bilingual education. However, in taking a closer look at the research design of this massive study, numerous respectable researchers and authorities (some of which were members of the very AIR evaluation team, including Ruddie Irizarry, Antonio de Porcel, Teresa Delgado, Beatrix Arias, and others such as José Cárdenas of the Intercultural Development Research Association, Michael O'Malley of the National Institute of Education, Heidi Dulay and Marina Burt of Bloomsbury West, and Tracy Gray of the Center for Applied Linguistics), have written responses to the findings of the AIR study appearing in various publications, all questioning the accuracy and validity of the methodology employed in executing the evaluation (The Fourth Annual Report of the National Advisory Council on Bilingual Education, 1978-1979, 1979, p. C-5). The major drawbacks of the AIR study are best summarized by Blanco (1977) in a publication by the Center for Applied Linguistics (CAL).

1. Weakness of pre- and post-test design over a five month period,

> 2. Inappropriate use of gain scores to assess effects of experimental treatments,
> 3. Unreliability of teacher assessment of students' language ability,
> 4. Inappropriate use of the CTBS,[3]
> 5. Lack of adequate teacher training and curriculum during the first five years of Title VII funding,
> 6. Distortion of information which defeats the intended purpose of the report; i.e., to provide information for policy-makers,
> 7. Aggregation of students who have received a variety of educational treatments funded by Title VII and whose language ability ranges from monolingual English to bilingual Spanish conceals the potential effect of bilingual education. (p. 60)

Clearly, the numerous weaknesses of design in the AIR study render it useless in terms of diagnosing bilingual education effectiveness or lack thereof. This has consistently been the direction of research in the field.

In addition to the national-scale GAO report and the AIR study, CAL surveyed over 150 evaluation reports as part of its work in developing a master plan for the San Francisco schools to respond to the Lau vs. Nichols decision by the Supreme Court. It is not surprising to read its findings: only seven evaluations out of the 150 met minimal criteria for acceptability or contained useable information (Troike, 1978).

Andersson and Boyer (1978) remark,

> one thing the AIR study makes clear: there is no universal understanding of what bilingual education is or should be, and consequently the numerous evaluations reveal a great variety of objectives and outcomes. (p. 43)

In support of Andersson and Boyer's preoccupation concerning this lack of consistency, Mackey (1952) explains,

> a review of the published literature reveals that up to the beginning of the Second World War most of the studies were narrow in scope and lacking experimental rigor; many of them on the basis of a few local experiments in a few classrooms, elaborated sweeping generalizations on the effects of bilingualism and the value of bilingual education. (p. 134)

Mackey (1977) applies the concept of individualization to evaluation as a prerequisite.

> Bilingual schooling can be judged only for a specific population in a particular place and at a given time. And even after the who, where, and when are known, bilingual education can be evaluated only in terms of alternatives. (p. 227)

The generalizations of conclusions about specific evaluations to other populations, therefore, becomes abusive of the interpretations drawn. This has been among the most salient problems faced in the field of bilingual education effectiveness research. Among the five major evaluation needs of bilingual education Woodford (1977) mentions "the design of procedures for assessing individual program effectiveness" (p. 119).

According to Andersson and Boyer (1978), one of the best accounts of evaluations to date is found in The Condition of Bilingual Education in the Nation: First Report of the U.S. Commissioner of Education to the President and the Congress, as required by section 731 of ESEA Title VII. Andersson & Boyer offer an excellent survey of the most important of these evaluations, as follows:

> In 1972 and 1973 Development Associates, Inc., of Washington, D.C., implemented under contract with OE

the major study of the Title VII program. It was an exploratory sampling to provide description useful for program planning. The study revealed "enthusiasm and commitment among personnel involved," but also a great need for more technical assistance, language training for teachers, and curriculum and materials development.

In 1974 OE designed an "exploratory" study of bilingual projects involving languages other than Spanish, implementation of which was contracted to AIR as part of the "Impact Study." The results of this study, reported in September 1975, were that the "special projects" funded under Title VII with a "capacity-building" mission to develop, assess, or disseminate curricular materials had not played an important role at the ten sites visited. One of the several findings was that because children's learning calls for a variety of instructional approaches, some projects have developed a "transitional" and others a "maintenance" approach. In general, teachers not directly involved in the bilingual project seemed to lack commitment to its success. AIR also examined bilingual projects under ESEA Titles III and IV (Indian Education Act) and under the Emergency School Assistance Act (ESAA) that might serve as models for project planners, parent and community advisory groups, boards of education, and teachers and administrators; projects were identified for which there was good evidence of success.

In 1975 Development Associates, Inc., initiated a study of state BE programs backed by a legislative mandate or state funding. "One perspective of the study is the effect on the State's activities of the Federal bilingual education programs operating within the State." Included, in addition to ESEA Title VII, were Section 708 (C) of the ESAA, Section 6 (b) (4) of the Library Services and Construction Act, and ESEA Titles I, III, and IV (Indian Education Act).

And finally, in accordance with requirements of PL 93-380's Part I (Section 192), OE designed in the spring of 1975 an exploratory study of the status of bilingual vocational training in all fifty states and contracted with Kirschner Associates, Inc., for its implementation. The objectives of the study were:

1. To identify and describe current bilingual vocational training programs;
2. To review the literature, evaluation reports, research, experiments, demonstrations, etc.;
3. To provide useful information on promising methods and techniques; and
4. Through a feasibility and design study, to

> develop techniques through which legislative requirements for assessing the impact of bilingual vocational training programs will be met in the future.
>
> The study was completed in 1976. (pp. 43-44)

Obviously, the present state of the art is deplorable. The overwhelming majority of whatever little research has been conducted in the field falls short of minimal acceptance. One exception to this reality is the bilingual education program evaluation set of guidelines delineated by Zappert and Cruz (1977).

Zappert and Cruz: A Model Set of Bilingual Education Program Evaluation Criteria

It is of prime importance that criteria for conducting evaluations across a wide variety of bilingual education programs be created in order to generate more realistic and valid conclusions. As the research of the literature indicates, without the use of such criteria, any findings about the success or failure of bilingual education at large, or about the effectiveness of one particular program, are useless, untrustworthy, and meaningless. This is why criticisms of the efficacy of bilingual education programs should take into account the lack of basic operational research that is needed to produce program improvement and quality (Troike, 1978).

Sound Research Yields Favorable Results

Moreover, contrary to widespread belief, the well-designed research conducted to date is not contradictory with regard to the effects of bilingualism and bilingual education on student performance. Where adequate research techniques and carefully controlled independent variables are employed, the research strongly demonstrates that bilingual education and bilingualism either improve or do not impede oral language development, reading and writing abilities, mathematics and social studies achievement, cognitive functioning, and self-image, all of which are so important to every student, and the latter of which is particularly critical to the linguistically- and/or culturally-different child (Zappert & Cruz, 1977). "In addition, there is empirical evidence that bilingual education programs improve school attendance" (Zappert & Cruz, 1977, p. 39).

The evidence suggests that if one administers objective criteria, applicability, and soundness of research designs, most of the studies in bilingual education show a significant positive or non-significant difference effect on student performance. It is pertinent and vital, at this point, to note the following:

> A non-significant effect, that students in bilingual education classes are learning at the same rate as students in monolingual classes, demonstrates the fact that learning in two languages does not interfere with a student's academic and cognitive performance. Students in bilingual classrooms have the added advantage of learning a second language and culture [with the additional cognitive flexibility that accompanies this particular learning process] without impeding their educational progress. Under these circumstances, a non-significant finding can be interpreted as a positive effect of bilingual education. (Zappert & Cruz, 1977, p. 39)

Zappert and Cruz's Task

These researchers collected a thorough appraisal survey of the empirical research in bilingual education conducted both in this country and abroad. It is of no surprise that they should conclude with the resolution that more sound design is needed in bilingual education program evaluation research if these studies are to have any accountability, meaning, value, or credibility for program improvement and subsequent preservation.

In evaluating reviews of bilingual education program evaluations, the Zappert and Cruz study strongly indicates support for the use of the child's native language as a medium of instruction in U.S. schools. With the elimination of the poorly designed and executed research studies and project evaluations by using their criteria, these researchers found readily apparent the "additive à la Lambert" effect of bilingual education and bilingualism on student performance.

Zappert and Cruz's Evaluative Criteria

Zappert and Cruz (1977) developed six criteria for exclusion (not inclusion), which they used in determining whether or not a research design was adequate. The study proposed in this paper intends to use these same criteria, which follow:

1. No control for socioeconomic status.
2. Inadequate sample size/Improper sampling techniques/Excessive attrition rate.

3. No baseline or comparison data/No control group/ Non-relevant comparisons.
4. No control for initial language dominance.
5. Significant differences in teacher qualifications or characteristics/Other confounding variables.
6. Insufficient statistical information/Improper statistical applications. (pp. 4-6)

Final Conclusions of the Zappert and Cruz (1977) Research

After applying the six criteria to 108 project evaluations and 76 research studies (108 + 76 = 184), 105 project evaluations and 67 research studies (105 + 67 = 172) were rejected due to one or more serious methodological weaknesses. That is, out of a total of 184 program evaluations studied, 172 were rejected (172/184), thus leaving only 12 acceptable studies (184-172 = 12). These 12 sound studies generated 66 findings. Of these 66 findings, Zappert and Cruz report only one (1%) was negative, 38 (58%) were positive, and 27 (41%) were neutral (1 + 38 + 27 = 66) in reference to the effects of bilingual education and bilingualism on the students. Ninety-seven percent of the total reports surveyed were discarded as unacceptable.

Zappert and Cruz's (1977) study is significant because it serves to support the thesis that whenever a bilingual program is properly investigated and scientifically researched, the conclusions regarding the effects of bilingualism and bilingual education are most probably going to be favorable.

Summary

Bilingualism and bilingual education have undergone historical eras of bitter attack and fervent defense. Most of the early attacks stemmed from unfounded observations, non-empirical studies, and non-scientific reports where critical independent variables were ignored and uncontrolled. This confounding situation yielded results which strengthened the anti-bilingual stand.

With the coming of sociolinguistics, a closer look was taken at the very variables which, in fact, made the difference. In spite of this, U.S. federally-funded, national-scale evaluations were carried out in the 70's which yielded unfavorable results for the bilingual cause. The findings of these evaluations were soon thereafter determined to be invalid due to lack of controls and other research design defects. But the harm was already done, since the general public, whose taxes support bilingual education, tended to look only at results and not stop to scrutinize how these results were obtained.

In reaction to this crisis, Zappert and Cruz (1977) developed a set of six evaluative criteria for bilingual education programs; these are a definite and excellent attempt at addressing the current need. As they report in their publication, whenever these criteria were closely followed, research suggests that bilingualism is favorable and bilingual education is effective. This set of evaluative criteria were adopted for this study.

Notes

1. The author of this study is using a 1972 copy of Lambert and Peal's 1962 study; hence, Lambert and Peal (1972).

2. Same as above.

3. Blanco refers to the CTBS as the *California Test of Basic Skills.* The author of this paper believes the name of the test is the *Comprehensive Tests of Basic Skills*. Sources were encountered which refer to both the *California Test of Basic Skills* and the *Comprehensive Tests of Basic Skills*, both as CTBS. The literature seems ambiguous as to which test was used in the AIR study.

CHAPTER III

DESIGN AND PROCEDURES

The design and procedures employed in this investigation are rendered in this chapter. Their presentation is divided into the following sections: (a) background description of the site area, (b) selection of the site, (c) description of the study's population, (d) selection of the sample, (e) description of the sample, (f) description of the treatment (Bilingual Education Program), (g) description of design, (h) description of the instrumentation, (i) description of data, (j) collection of other data, (k) data analysis.

Background Description of the Site Area

History

Hillsborough County was named for Wills Hills, the Earl of Hillsborough (1718-1793), an Irish peer who in 1768 became Secretary of State for the colonies (Morris, 1974). But Hillsborough County, as we know it today, was established on January 25, 1834 (Pollack, 1979).

The importance and intensity of Hillsborough County's Hispanic culturo-historic heritage should not be overlooked when describing its past and present. This topic has already been covered in Chapter I of this study.

Geography

Hillsborough's County Seat is Tampa. The county is located midway down the west coast of the state, on one of the best protected natural harbors in the world (Committee of 100, n.d.); Port Tampa is the largest port in the state, and is one of the largest with access to the Gulf of Mexico (Pollack, 1979).

Hillsborough County is bordered by Tampa Bay and Pinellas, Polk, Manatee, and Pasco Counties (Pollack, 1979). The county encompasses 1,037.8 square miles of land and 24.2 square miles of inland water area, for a total area of 1,062 square miles. Hillsborough County ranks fifth in total area in Florida. Tampa's corporate limits cover 84.4 square miles (Committee of 100, n.d.).

Population

The cosmopolitan, multicultural, multilingual composition of the area is represented by the wide variety of languages spoken in the homes of Hillsborough County students, some of which are:

Arabic
Bengali
Chinese
Czech
Danish
Dutch
Filipino
Finnish
French
German
Greek
Haitian
Hebrew
Hungarian
Italian
Japanese
Korean
Polish
Portuguese
Russian
Spanish
Tagalog
Thai
Turkish
Vietnamese
Yugoslavian

(*Emergency School Aid Act: Bilingual Project, 1979-1980*, 1978, p. 71)

The population of Hillsborough County is ethnically broken down in the following fashion, rank ordered by size:

1.	White:	546,575
2.	Black:	86,464
3.	Other:	8,751
4.	Asian:	3,833
5.	Indian:	1,337
	TOTAL	646,960

This U.S. census report did not treat "Hispanic" as a separate ethnic group. Therefore, those persons of "Hispanic" background will have been included in other groups: i.e., white, black, or other. After the population was totalled, however, this census report did isolate "Spanish" persons, and identified the number of "Spanish" inhabitants in Hillsborough County as 64,199 "Spanish" persons (U.S. Bureau of the Census, Census of Population, 1980. Congressional Reapportionment Tape, Florida).[1]

Education

The Hillsborough County School System is the seventeenth largest in the U.S. Its 129 public schools are consolidated into a single school district that includes 92 elementary schools, 26 junior high schools, and 11 senior high schools. A number of private and parochial schools covering grades kindergarten through 12 are located in Tampa and the surrounding metropolitan area (Committee of 100, n.d.).

Tampa is the center of higher education on the west coast of Florida. The largest of these educational institutions are Hillsborough County Vocational-Technical Center, Hillsborough County Community College, Florida College, the University of Tampa, and the University of South Florida, the latter with its 25,000-member student body, $25 million U.S.F. Medical Center, and its Medical School, the newest of the three existing in the state (Committee of 100, n.d.).

Agribusiness

Hillsborough County has been an agricultural center since its earliest days, when initial settlers found the region's rich, fertile soil and mild climate extremely conducive to around-the-year farming, and Tampa Bay an excellent port for shipping the produce to market. Today, Hillsborough County is one of Florida's most diversified agricultural counties, with citrus, beef cattle, dairying, vegetables, and ornamental horticulture as the main commodity areas of production (Committee of 100, n.d.).

Other Economic Resources

Hillsborough County is the home of MacDill Air Force Base. It has been internationally known for many years for its production of fine cigars, as well as for its many tourist attractions.

Selection of the Site

The selection of the site comprised an important consideration for the study. The selection of Hillsborough County above other counties of Florida occurred as a direct result of many factors:

1. With its 9.9 percent Hispanic population, it ranks sixth statewide in that measure. More specifically, the Tampa-St. Petersburg area is considered to be the twenty-first area nationally with regard to the dominance of Hispanic influence (Watanabe, 1981).
2. The need for a study which evaluated Hillsborough's Bilingual Education Program was recorded as a top research priority in 1980 by the county's educational research team. It was commendable that the evaluator be external to the county, since this arrangement might be more likely to yield an objective assessment.
3. No study identical to this one had ever been conducted in the county.
4. Accessibility for data collection also helped to determine the selection of Hillsborough County as the site for the study.

Description of the Study's Population

Through Hillsborough County educational information, such as printouts, records, and teacher reports, students were screened in order to discover which ones would qualify for the investigation.

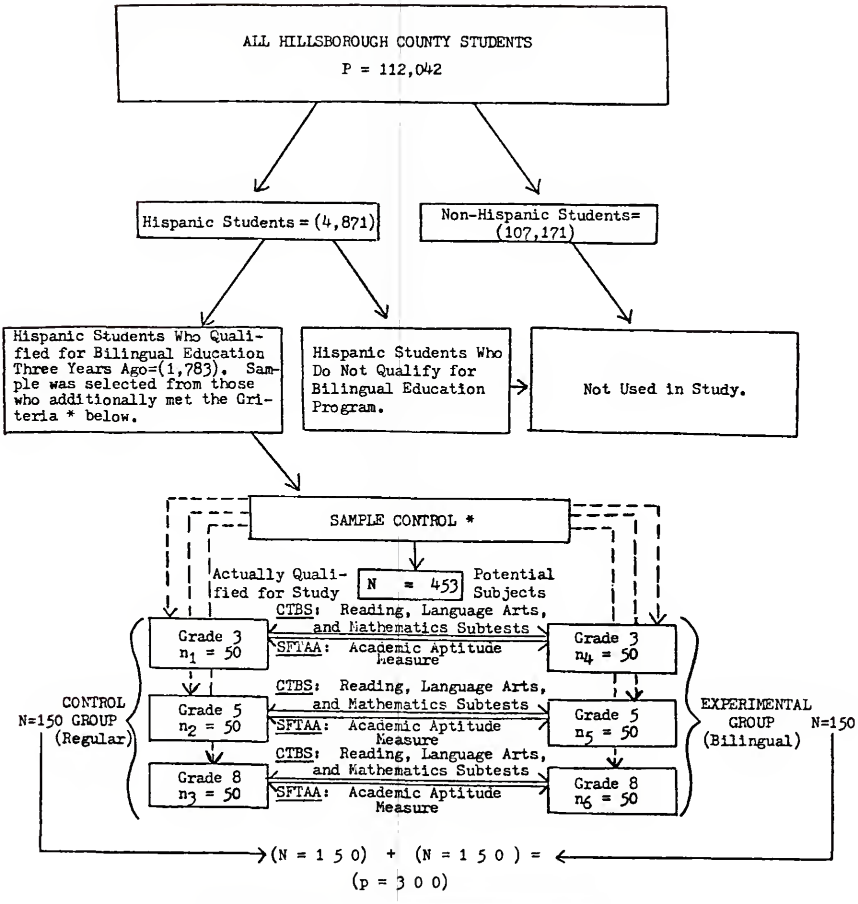
To determine qualification for participation in this study, a list of criteria (see Figure 5) was developed and established. It was then determined whether or not each student fulfilled the requirements of variable controls. If a student did not satisfy even one of the six criteria in the sample control list, he/she was automatically discarded from use and disqualified for inclusion in the population pool from which the target sample would eventually be randomly selected.

From a total of 112,042 Hillsborough County students (Figure 5), the Hispanic ones were identified, these numbering 4,871. From this number, approximately 1,783 were identified as qualifying for the Bilingual Education Program three years ago. However, further screening was necessary in order to determine the students who met the rest of the sample control criteria.

After screening the 1,783 Hispanic students for the other existing criteria, only 453 subjects remained in the final population pool; i.e., those students who were potential and legitimate subjects for the study and satisfied all six of the criteria.

Selection of the Sample

The 453 potential subjects contained uneven numbers of students from grades 3, 5, and 8 for both the Bilingual and Regular Programs. Equal cell frequency and some degree of random selection were desired. In order to attain the two,


ALL HILLSBOROUGH COUNTY STUDENTS
P = 112,042
Hispanic Students = (4,871)
Non-Hispanic Students= (107,171)
Hispanic Students Who Qualified for Bilingual Education Three Years Ago=(1,783). Sample was selected from those who additionally met the Criteria * below.
Hispanic Students Who Do Not Qualify for Bilingual Education Program.
Not Used in Study.
SAMPLE CONTROL *
Actually Qualified for Study
N = 453
Potential Subjects
CTBS: Reading, Language Arts, and Mathematics Subtests
SFTAA: Academic Aptitude Measure
Grade 3 n1 = 50
Grade 5 n2 = 50
Grade 8 n3 = 50
Grade 3 n4 = 50
Grade 5 n5 = 50
Grade 8 n6 = 50
CONTROL GROUP N=150 (Regular)
EXPERIMENTAL GROUP N=150 (Bilingual)
(N = 150) + (N = 150) =
(p = 300)

* SAMPLE CONTROLLED BY THE FOLLOWING CRITERIA:

1. Subjects (S's) randomly selected.
2. All S's classified as Lau Language Proficiency A, upon entry into School System.
3. All S's in School System for three years.
4. All S's socioeconomically classified by Lunch Category A, B, or C.
5. All S's in 3rd, 5th, or 8th grade.
6. All tests yielding the reported scores were administered Spring 1980.

Figure 5

The Study's Plan: A Flow Chart

six lists of student names were compiled, one name per line, accommodating each of the six categories (Bilingual: 3, 5, and 8 and Regular: 3, 5, and 8).

Six small boxes were utilized, labeled: B3, B5, B8 and R3, R5, R8 respectively. The six lists were then disjointed by member: each student's name was cut and folded. The folded strips were then placed in the appropriate box.

After considering the number of names in each of the six boxes, and because equal cell frequency and random selection were desired, 50 was determined to be an appropriate number of subjects for each cell. Subsequently, the box tops were placed on, each box was shaken, and 50 names were randomly selected from each of the six categories, yielding 150 for the Bilingual (Experimental) Group and 150 for the Regular (Control) Group--a total of 300 subjects in the final and actual sample. It was a fortunate coincidence that this sample was comprised of 151 females and 149 males.

An important consideration in selecting the sample was that it was obtained in a cross-section manner, since the 300 subjects of the final sample originated in diverse and distant schools--the students attended a total of 57 schools in Hillsborough County (Table 4), ranging from one geographic end of the county to the other. This factor strengthens the study because its results can be more generalizable to the entire county and not just relevant to one specific area of Hillsborough County.

TABLE 4

THE 57 HILLSBOROUGH COUNTY SCHOOLS PARTICIPATING IN THE STUDY

School Name	Number of Students Participating	Percent of Sample (Rounded)	School Name	Number of Students Participating	Percent of Sample (Rounded)
Adams	16	5.3	Grady	3	1.0
Alexander	25	8.3	Graham	6	2.0
Anderson	4	1.3	Greco	4	1.3
Ballast Point	5	1.7	Kingswood	1	0.3
Bay Crest	2	0.7	Mabry	5	1.7
Bellamy	5	1.7	MacFarlane Park	12	4.0
Brooker	8	2.7	Madison	3	1.0
Broward	7	2.3	Mann	7	2.3
Bryan, Plant City	3	1.0	Mango	1	0.3
Buchanan	12	4.0	McLane	3	1.0
Buckhorn	2	0.7	Mendenhall	2	0.7
Cahoon	3	1.0	Middleton	12	4.0
Carrollwood	2	0.7	Morgan Woods	1	0.3
Chiaramonte	1	0.3	Mort	2	0.7
Citrus Park	4	1.3	Pierce	7	2.3
Clair-Mel	9	3.0	Riverview	3	1.0
Cleveland	1	0.3	Roosevelt	1	0.3
Coleman	6	2.0	Ruskin	1	0.3
Cork	1	0.3	Springhead	1	0.3
Crestwood	14	4.7	Tampa Bay Boulevard	8	2.7
DeSoto	8	2.7	Tinker	2	0.7
Dickenson	12	4.0	Town & Country	9	3.0
Dover	2	0.7	Trapnell	1	0.3
Dowdell	13	4.3	Twin Lakes	6	2.0
Edison	9	3.0	Van Buren	2	0.7
Egypt Lake	3	1.0	Webb	9	3.0
Eisenhower	6	2.0	Wimauma	1	0.3
Forest Hills	1	0.3			
Foster	2	0.7			
Gibsonton	1	0.3			

Description of the Sample

A sample of 300 students was randomly selected from a population of 453 low socioeconomic status (LSES) subjects. All of the 453 students, consequently the final 300, qualified for the Bilingual Education Program in Hillsborough County in 1977, which was three years ago, as determined by classification placement in Lau Proficiency Category A (LPC-A) through the diagnosis of the Dade County Test of Language Development: Aural Comprehension (DCTLD-AC), administered prior to school enrollment. Therefore, all of the 453 received the option of Bilingual or Regular Program education, prior to sample selection. In addition, all of the 453 students had remained in the school system for a consecutive period of three years (1977-1980) and were Spanish-language-dominant (SLD), as determined by the Crane Oral Dominance Test (CODT). Of the N = 453:

50 subjects randomly selected from the Bilingual Grade 3 group
50 subjects randomly selected from the Bilingual Grade 5 group
50 subjects randomly selected from the Bilingual Grade 8 group
TOTAL = 150 (Bilingual/Experimental Group)

50 subjects randomly selected from the Regular Grade 3 group
50 subjects randomly selected from the Regular Grade 5 group
50 subjects randomly selected from the Regular Grade 8 group
TOTAL = 150 (Regular/Control Group)

GRAND TOTAL: 150 + 150 = 300, therefore N = 300

Regarding Lunch Categories, it should be mentioned that, although Lunch Category C ("Full-Priced"/"Regular Price" or "No Information Available") was not deleted from the Linear

Model (p. 93), there were no inferences made from those students belonging to the C group. The information obtained from the Lunch Category C group was used to help predict Lunch Category A and B students; not to describe C itself. This has been done due to the lack of specificity that characterizes Lunch Category C; also, due to the fact that it is the only category which does not claim LSES. Of interest to this particular point, however, is the fact that through anecdotal data it was learned that "over 90 percent of the families whose children qualify for bilingual education are below poverty level" (Ippolito, 1981); it follows, then, that the majority of these families would certainly qualify for either Lunch Category A or B. This observation is important because, if it is true, then it could be deduced, from the high number of C's (Table 5), that many families qualify but do not accept free or reduced lunch services. Along these same lines, it is relevant to point out that in both programs, Bilingual and Regular, it was the marked trend that the older the child; i.e., the higher the grade, the less Lunch Category A's and B's that were recorded and the more C's that appeared (Table 6). Conversely, in Grade 3 of both programs, there is the highest number of A's and B's and the lowest number of C's. A possible explanation of this phenomenon may be that the older the child, the more socially aware he/she is of the trauma that is accompanied by a lunch card which (possibly shamefully), declares his/her family to be "poor" or "inferior."

TABLE 5

TOTAL FREQUENCY OF LUNCH CATEGORIES A, B, AND C FOR GRADES 3, 5, AND 8

Lunch Category	Total Frequency	Percent (Rounded)
A	29	9.7
B	89	29.7
C	182	60.7

TABLE 6

FREQUENCY OF LUNCH CATEGORIES BY GRADE AND PROGRAM

Grade	Bilingual			Regular		
	A	B	C	A	B	C
3	7	18	25	6	26	18
5	7	12	31	5	22	23
8	1	6	43	3	5	42
TOTALS:	15	36	99	14	53	83
	(n = 150)			+ (n = 150) = 300		
				N = 300		

Description of the Treatment (Bilingual Education Program)

Rationale

The child who comes to school speaking predominately a language other than English is at a distinct disadvantage in an English-speaking school. He will have already developed control over some 80 percent of the grammar and sound system of his native language. A school system which does not draw on this ability is wasting a great deal of the child's preschool experience. The second language must be introduced and taught in a systematic way as any new subject would be, because it cannot merely be learned by osmosis in the English-speaking classroom. In addition to these linguistic factors, there are strong psychological reasons for bilingual education.

Children learn the language which they hear in their home and neighborhood as a result of their need to communicate. When they begin classes in an environment which does not use the language they hear at home, their ability to communicate is minimal. Thus, a child feels frustrated and inadequate when he cannot ask questions and communicate with his teachers and peers. A child who cannot do the class assignments because of his inability to understand the language of his new environment feels ignorant and inferior.

A bilingual teacher can translate course work for a child in his native language or translate directions for the students thus enabling the child to do assignments similar to his peers. His self-image will improve, thereby improving his ability to succeed. There can also be a feeling of camaraderie developed between a teacher and his students when they share a common language and culture, thus paving the way for a successful learning situation.

The need for bilingual education is not based on political considerations, but rather on a purely educational one. Language groups are not trying to establish a separatist position, they are merely asking for recognition of the *fact* that many children do not come to the public schools speaking English. Recent federal legislation has finally reflected this presence of non-English speaking minorities and is aimed at fully educating children who are demonstrably not performing well because of a language barrier.

In Hillsborough County the public schools have adopted a Transitional Bilingual Education (TBE)

> Program. This means that the program is a dual-medium (two languages being used in instruction) and it is ultimately a transfer program because there is no provision for permanent maintenance of the native language throughout the entire education of the student. Thus, it is "transitional" because the students are being taught in their native language where their need is the greatest, but when they function fully in English they will move into the regular curriculum. In this sense the TBE Program is also "acculturative" because its goal is to facilitate the full participation of the student in the regular school program.
>
> The transitional nature of the Bilingual Program does not imply, however, that the native language and culture are to be deprecated or lost. On the contrary, the goal is to give the student who would otherwise be an under-achiever the advantage of quality education in his native language, an awareness of his own culture, and good training in English-as-a-Second-Language.
>
> By developing his cognitive skills in the native language when he needs it the most, he will not suffer the humiliation of falling further and further behind or being categorically placed in much lower grades. By being allowed to use his native language rather than being punished for using it, and by studying his own cultural heritage, he will develop the self-esteem so crucial to a successful school experience. The goal of any bilingual program, even if it includes the maintenance of the native language, is still to provide the best educational experience possible to equip the student to participate fully in the larger society. Bilingual education offers neither a retreat to ethnic isolation, nor a forced submersion into the mythic melting pot. It offers students education appropriate to the _needs_--no different than special programs for gifted children or handicapped children. Bilingual education provides them with the opportunity to be acculturated in the best sense of the word, i.e., they will be given an adequate education which they can use to gain access to the American culture to the extent that they desire. (_Bilingual Program Handbook: Hillsborough County School System_, 1980, pp. 1-3)

Eligibility and Identification for Bilingual Education

Students will be identified for the program by using the following procedure:

1. Any student identified as having a foreign language background on the Student Data Transmittal form will be reported to the principal and the Bilingual Office with the following information: student's name, language, school, grade, and age.
2. Where there is a Bilingual Program teacher located in the school, the bilingual teacher will assess the student's language-speaking ability and determine whether the student should be recommended for the Bilingual Program.
3. Where there is no Bilingual Program, the Coordinator for Bilingual Education will be responsible for the assessment of the student's language-speaking ability and determine whether the student should be recommended for the Bilingual Program.
4. Students enrolled in a Bilingual Education Program must meet qualifications stated in the Lau Remedies, therein labeled "Lau English Proficiency Categories." A complete list of the Categories appears in Appendix B. In order to qualify for Bilingual Education, the student must be classified into one of the following three language categories:

   A Monolingual speaker of a language other than English;

   B Predominate speaker of a language other than English;

   C_1 Functional speaker of English, but underachiever at one standard deviation below the district norms (excerpted from Lobato, 1979a)

Resource Management

For Bilingual Education purposes, in Hillsborough County "the average expenditure per pupil is $387. In comparison with other federally funded projects, this is considered a reasonable cost in relation to expected outcomes" (Emergency School Aid Act: Bilingual Project, 1979-1980, 1978, p. 102).

Emergency School Aid Act (ESAA) bilingual education monies are made available to local education agencies to provide aid to school children whose educational disadvantages are the result of language and cultural barriers which deny them equal opportunity. A significant portion of these monies are targeted to eliminate the educational achievement deficits often found to be characteristic of students isolated from the educational mainstream by the fact that they come from home environments in which English is not spoken. While money is available for programs designed to serve these students, it is the responsibility of the local education agency to identify and document major educational needs of the type to which these funds are allocated (Emergency School Aid Act: Bilingual Project, 1979-1980, 1978). In the Hillsborough County School System 40 percent of the bilingual education program funds come from the federal government, and the remaining 60 percent of the budget is provided by the county (Lobato, 1981).

Staffing

The teacher-student ratio in the Bilingual Education Program is 1:22, a ratio which is comparable to its Regular Education Program counterpart (Lobato, 1981).

Ninety-nine teachers and 73 teacher aides implement the program in 23 elementary schools and 16 secondary schools. Of the 99 teachers, 81 work in bilingual centers, while the remaining 18, accompanied by nine teacher aides, provide services on an itinerant basis to children who speak Spanish, Italian, German, Vietnamese, French, Korean, Chinese, Thai, and Greek (Lobato, 1981).

Itinerant Bilingual Education Program

> The Itinerant Bilingual Program services students who qualify, but who for various reasons are not enrolled in a Bilingual Center, or for whom Bilingual Centers have not been established due to the small number of students in that particular language group. In cases where the number of Spanish-speaking students is too small to justify a teacher, or where transportation is not feasible, the students will be served by an Itinerant Teacher.
>
> The Bilingual Itinerant Teachers have the responsibility of instructing the students in English-as-a-Second-Language (ESL). Their ultimate goal is to assist the bilingual students in becoming proficient in the speaking, reading, and writing of the English language, thereby enabling them to compete with the regular classroom students and allowing them to pursue, to the best of their ability, a meaningful education.
>
> The Itinerant Teacher is qualified to test the student's language dominance and make a determination as to the student's language needs, in addition to providing whatever other assistance the student may need in his/her basic subjects by way of tutorial instruction. (Bilingual Program Handbook: Hillsborough School System, 1980, p. 31)

Bilingual "Buddy Tutor" Program

> As one of its components, the ESAA Bilingual Program has a "buddy tutor" program. This program allows a bilingual student who is doing well in his academic subjects, and who is of good moral character, to tutor another bilingual student within that school who is under-achieving and in need of extra help. (Bilingual Program Handbook: Hillsborough County School System, 1980, p. 31)

Bilingual Education Program Design

> Elementary, K-6. All students in A, B, and C_1 categories will receive English-as-a-Second-Language (ESL) instruction. In addition, all students in categories A and B will receive native language instruction in the following areas: Native Language Arts, Social Studies, Science, and Mathematics.
>
> The curriculum content of the subject areas mentioned above will parallel the curriculum content of the regular classes and for the same period of time. The A, B, and C_1 category students will also receive music and physical education provided by a specialized teacher.
>
> The program is designed so that grades 1, 2, and 3 will be placed in one classroom, as will grades 4, 5, and 6. Each classroom will have its own bilingual teacher and aide, resulting in a more effective program for the students.
>
> The Hillsborough County School System removes the target student and places him/her in the Bilingual Program when it is educationally justifiable. This will continue until the student becomes competent in English, and has the skills necessary for immersion into the regular school program of instruction.
>
> Secondary, 7-9. Bilingual target students in categories A, B and C_1 will receive English-as-a-Second-Language (ESL) as a class component. Such students will also receive instruction in their native language (Spanish) in the various subject areas, as needed.
>
> Secondary, 10-12. When a category A, B, or C_1 student arrives at his/her designated high school, the student's records and achievement levels are assessed in the light of the County graduation requirements. At this point, an individual program of instruction will be designed to expeditiously meet the requirements for graduation and proper immersion into the total school program. This program includes one class of intensive ESL instruction. An A or B category student may be scheduled

> for two classes of ESL if it is determined that the student can profit from the additional instruction. The student would then receive one unit of credit in ESL, and another unit of credit in Basic English. (Bilingual Program Handbook: Hillsborough County School System, 1980, pp. 28, 29)

Transitioning from the Bilingual Program

At the elementary level, total transitioning occurs following the return of the spring CTBS scores. From grade seven on, a student may either make the transfer all at once, or in stages. The steps below are those followed for partial transitioning with the addition of the important steps taken for total transitioning:

> 1. Recommendation and documentation by the Bilingual Teacher.
> 2. Passing grades on a Criterion Reference Test (CRT) written in English.
> 3. The student must be making grades of "C" or above in the bilingual subject area(s) from which he/she is to be transitioned.
> 4. Partial transitioning will occur only at the beginning of a nine-week grading period. At that time, the student is placed in a regular classroom on a trial basis without a permanent schedule change.
> 5. If after two weeks the student has failed to pass the teacher-made test given to the other members of the class, the student is then returned to the Bilingual Class for remediation.
> 6. If after two weeks the student is performing satisfactorily in the regular class (passed teacher-made test), then a permanent schedule change is made.
> 7. Presentation of all pertinent data recorded on the BILINGUAL STUDENT AUDIT FORM is submitted to the Principal by the Bilingual Teacher.
> 8. After the Principal and the Bilingual Teacher have made their recommendation to transition, the Bilingual Office and the student's parents/guardian will be notified in writing by the Bilingual Teacher (see BILINGUAL PROGRAM TRANSITIONING LETTERS TO PARENTS, Appendix C).
> 9. Eleventh and twelfth graders must pass the minimum standards on the Florida State Assessment Test II. (Bilingual Program Handbook: Hillsborough County School System, 1980, pp. 45, 46)

Procedures for Waiving the Bilingual Program

> The parent or guardian must make an unsolicited request to remove the student from the program. All waivers will be written in the appropriate language of the parents. The principal is responsible for certifying that the procedures below have been followed:
>
> 1. The principal or designee is responsible for explaining the program and its benefits to the parents. This will be accomplished in the appropriate foreign language, if necessary. A bilingual teacher and/or a representative for the Bilingual Office will be present if an interpreter is needed.
> 2. The parents (or guardians) must make a request to the school that the student not be placed in the Bilingual Program, or to remove the student from the Program.
> 3. The principal is responsible for referring the parents to the Bilingual Office. The Bilingual Office will confer with the parents in their native language, either in person or by telephone.
> 4. If after the conference the parents still wish to waive the child, the Bilingual Office will forward to the school a waiver form and copy signed by the Bilingual Office, and the parents, if possible.
> 5. The principal must then sign both copies, and is responsible for securing the signature of at least one of the parents, if they have not already signed.
> 6. The school will then send the original signed waiver back to the Bilingual Office, and place the copy in the student's cumulative folder.
> 7. High School (10-12) students at schools where only itinerant service is provided are not required to sign a waiver.
> 8. Waivers are in effect for one school year only. (Bilingual Program Handbook: Hillsborough County School System, 1980, p. 48)

Evaluation

The evaluation of the program assesses the needs of the individual target students and measures the attainment of the program objectives. Teaching strategies and materials are selected and developed to help meet the identified needs of individual students based on results of test information (Emergency School Aid Act: Bilingual Project, 1979-1980, 1978, p. 91).

Description of Design

The research design used was the Campbell and Stanley (1963) "Posttest-Only Control Group Design." It is design number six, and its model is as follows:

$$\begin{array}{ccc} R & X & O_1 \\ R & & O_2 \end{array}$$

Description of the Instrumentation

Comprehensive Tests of Basic Skills (CTBS): Reading, Language Arts, and Mathematics Subtests

CTBS is a series of examination batteries for Kindergarten through grade 12 testing achievement in multi-subject areas. For the purposes of the study at hand, only the reading, language arts, and mathematics subtest scores were used. Table 7 presents the seven separately-timed tests which pertain.

TABLE 7

COMPOSITION OF CTBS BATTERY

Skills Area		Test	Number of Items
Reading	Test 1:	Reading Vocabulary	40
	Test 2:	Reading Comprehension	45
Language Arts	Test 3:	Spelling	50
	Test 4:	Language Mechanics	20
	Test 5:	Language Expression	35
Mathematics	Test 6:	Mathematics Computation	48
	Test 7:	Mathematics Concepts & Applications	50

The tests were standardized on a large national sample of students K-12, randomly selected from all areas and states of the U.S. The sample included both public and private school students, and their numbers were kept proportionate to actual enrollments. The publishers (CTB/ McGraw-Hill) subjected the CTBS Form S to statistical debiasing procedures by a panel of authorities and experts. They also standardized this instrument with a national sample which included approximately 7.9 percent Spanish-speaking students (Pletcher, Locks, Reynolds, & Sisson, 1978). The CTBS yields both scale and percentile scores. Appendix D contains additional information on this test.

Short Form Test of Academic Aptitude (SFTAA)

"The SFTAA is a series of mental ability tests for use in grades 1.5 through 12.9" (*Short Form Test of Academic Aptitude (SFTAA): Technical Report*, 1974, p. 9). It was developed as an instrument to assess the level of intellectual development attained by students and to predict their potential rate of progress and level of success in school.

The SFTAA contains five levels. Each of these five con-ains four separately-timed subtests: (1) Vocabulary (Vocabulary Development), (2) Analogies (Logical Reasoning), (3) Sequences (Education of Quantitative Relations), and (4) Memory (Meaningful Memory). Vocabulary and Memory constitute the Language Section; Analogies and Sequences make up the Non-Language Section.

A variety of summary and derived scores are available, such as: language, non-language, and total; and mental age, intelligence quotient (IQ, herein labeled "a measure of academic aptitude"), reference scale score, percentile rank, standard score, and stanine score. The only score of relevance to this study is the measure of academic aptitude (*Short Form Test of Academic Aptitude (SFTAA): Examiner's Manual*, 1970, Level 2).

The SFTAA was standardized by administration of the test to a national sample of 197,912 students in grades 1 through 12. The sample was stratified by geographic region, school district enrollment, and an index of community type (*Short Form Test of Academic Aptitude (SFTAA): Examiner's Manual*, 1970, Level 2).

> An intelligence quotient (IQ) on the SFTAA is a form of normalized standard score with a mean of 100 and a standard deviation of 16 based on school students in a particular age group. This is the same type of IQ which was used in the 1963 *California Short-Form Test of Mental Maturity*. The deviation IQ may be interpreted as an index of "brightness" when the student is compared with other students of similar chronological age without regard to grade placement. One characteristic of the deviation IQ is that students of any age who obtain the same IQ will have the same age percentile rank. Percentile ranks for age groups are thus useful alternative scores for the IQ.
>
> The IQ is obtained directly from the norms tables using the raw score on the test and the student's age in months. . . .
>
> The IQ should be interpreted as an index of a student's mental ability in relation to his age mates who are enrolled in school. The IQ may not have the same meaning at various age levels due to the selective retention of students in school; if less able students drop out of school in greater proportions and high ability students are accelerated, a particular IQ may indicate a higher level of ability at the upper grades

than it does at the lower grades. Thus, an IQ of 100 at grade 11, because of the effects of dropouts and accelerated students, may represent mental ability somewhat above the average of an unselected national sample for that age. (*Short Form Test of Academic Aptitude (SFTAA): Examiner's Manual*, 1970, Level 2, p. 35)

Crane Oral Dominance Test (CODT)

The purpose of the *Crane Oral Dominance Test* is to determine if the student has a dominant language, if the student is bilingual (can function adequately and equally in either language), or if the student needs concentrated language, concept, and memory development to function adequately in either language.

The Crane Oral Dominance Test is based on the premise that the language in which the pupil internalizes (thinks) is the pupil's dominant language, regardless of the language in which he or she responds in any given situation. The language in which a pupil may respond cannot be considered the same as the pupil's internal language for a variety of reasons: a pupil may choose to respond in a language other than his or her internal language because a pupil may feel he or she is expected to respond in a particular language due to the language relationship with the instructor, the school environment, schoolmates, or parents: a test may be administered in such a way as to encourage the use of one language over another.

Oral language dominance tests thus far have been ineffective in assessing the internal language of the pupil, and yet it is the internal language which plays the crucial role in the learning process. It is the internal language which is the basis of the pupil's primary sound system. This must be known in order to prescribe appropriate beginning reading instruction. (Crane, 1978, p. 5)

This norm-referenced diagnostic instrument is composed of eight "Spanish/English Word Pair Sets." Each contains four word pairs in English and four in Spanish which are listed in random order. The examiner reads the words aloud and the student must recall them in either language. The examiner then asks the student five questions referring to home language usage. This instrument assesses the internal, or dominant, language in which the student recalls having perceived the stimulus words. Students respond orally and answers are hand scored. (Pletcher et al., 1978, p. 84)

> The Crane Oral Dominance Test allows the pupil to respond in either his or her first or second language. The composition of the "Spanish/English Word Pair Sets" involves memory of English and/or Spanish language items. It is not the language of the response that is measured to determine dominance, but the language from which the item was remembered. The student is encouraged to respond in either language he or she desires. Directions are given in both languages and in reversed order each time, in order not to give preference to either language. (Crane, 1978, p. 5)

With regard to its standardization and validity, the CODT was pilot tested during the 1975-1976 school year with 934 students, ages four to eight years in ten school districts from Arizona, California, New York, and Washington, in urban, suburban, and semi-rural areas. Students were of Hispanic and Anglo-American ethnicity (Crane, 1978; Pletcher et al., 1978). The predictive validity coefficient as demonstrated by correlations with school performance was found to be .87. The odd-even reliability coefficient was found to be .86. The test was again piloted during the 1976-1977 school year with 1721 students, ages nine to sixteen, in four school districts. The predictive validity coefficient as demonstrated by correlations with school performance was found to be .76. The odd-even reliability coefficient was found to be .85 (Crane, 1978).

In relation to the possibility of cultural and/or linguistic bias,

> reviewers felt that the directions, item content, vocabulary, format, and procedures were culturally and linguistically appropriate for Cuban, Mexican-American and Puerto Rican students in grades K-3. They noted that the test might be too taxing for 4-year-old children. (Pletcher et al., 1978, p. 84)

This instrument yields a total raw score which can be converted to one of three dominance categories (Pletcher et al., 1978, p. 84).

Dade County Test of Language Development: Aural Comprehension (DCTLD-AC)

The purpose of the DCTLD-AC is to assess the aural comprehension of English in students whose first language is other-than-English. This instrument has been used with approximately 1270 elementary school students in Dade County, Florida.

> This diagnostic instrument measures the student's ability to understand oral English. There are 22 test items composed of isolated vocabulary words and short sentences which vary in complexity. Instructions are given orally in English or in Spanish. Students in grades K-1 respond by marking pictures in test booklets, while those in grades 2-6 mark answer sheets. (Pletcher et al., 1978, p. 113)

The DCTLD-AC yields total scores which are used to place students in one of five proficiency levels. The test also provides a table showing which test items correspond to specific language structures tested (Pletcher et al., 1978).

Description of Data

In the primary analysis, scale scores from grades 3, 5, and 8 were used for each of three CTBS subtests (reading, language arts, and mathematics) and a score from SFTAA for the academic aptitude measure.

The secondary analysis procedure double-checked what was determined by the primary analysis; it tested the same hypotheses, but with different numbers to present different aspects of the same hypotheses. For this secondary analysis, percentile scores were used for each of the three CTBS subtests.

Note that while a scale score is absolute, a percentile score is relative.

Collection of Other Data

Additional data were gathered from personal sources in the Hillsborough County Central Bilingual Education Office. At least one formal and/or informal interview was conducted with each of the following personnel:

Program Coordinator--Norma B. Lobato
Curriculum Coordinator--Gioacchino Ippolito
Curriculum Specialist--Katherine M. Pastorius
Counselors--Stella B. López and Dora A. Brown
Cultural Coordinator--Diana Ciccarello
Testing Coordinator--Celestino Miranda
Secretaries--Martha Romero, Nancy Suárez, and
Helen Williams.

The nature of these data was anecdotal and covered such program areas as:

- Inception
- History
- Success and problems
- Sources of funding
- Nature of clientele
- Dynamics

Through the actual experience of the foregoing personnel, these data provided a more humanistic, real-world basis and foundation on which to interpret more skillfully the hard data obtained. The information drawn from this source furnished the study with particulars relating to specific program processes and dimensions which are not formally recorded or accessible in archival sources, yet carry considerable import. These opportunities for exchange generated an understanding of the background, providing a context in which to view the hard data.

Data Analysis

The null hypotheses were tested using the generalized linear model procedure (Proc GLM) of the Statistical Analysis System (SAS). The following model was used:

$$Y = \mu + (G_i) + (\beta_j) + (S_k) + (a_{ik}S_kG_i) + (b_{jk}S_k\beta_j) + (\$_l) + (c_{kl}S_k\$_l) + (d_{jl}\beta_j\$_l) + (e_{il}G_i\$_l) + (f_{ij}\beta_jG_i) + \text{Error},$$

WHERE,

μ = overall mean

G_i = grade level effect

i = 3, 5, or 8

β_j = program effect

j = 1 (Bilingual/Experimental Program) or
2 (Regular/Control Program)

S_k = sex effect

k = 1 (male) or 2 (female)

$\$_l$ = socioeconomic status (SES) effect

l = 1 (Reduced Lunch Category: A) or
2 (Free Lunch Category: B) or
3 (Full-Priced Lunch Category or "No Information Available": C)

$$\left.\begin{array}{l} a \\ b \\ c \\ d \\ e \\ f \end{array}\right\} \text{coefficients of interaction terms}$$

F tests from standard analysis of variance (ANOVA) were run in order to try detecting differences in the achievement levels of the two programs (Bilingual and Regular) for the three subtest areas (CTBS: reading, language arts, and mathematics) and academic achievement, all in the different target grades (3, 5, and 8).

The results stated in this study were obtained by fitting the complete GLM to decide which effects belong in the true model, and then fitting this reduced model. Grade and Program Main Effects and the Grade-by-Program Interaction were included in all reduced models, regardless of their significance in the complete model.

One of the assumptions for the ANOVA/F test is an underlying normal distribution (bell-shaped) for the data. One problem emerged: the percentile rank scores did not satisfy this assumption; therefore, a transformation on these data was performed. This was done to adjust the data, so as to satisfy the assumption of normal distribution.

Treating percentiles as fractional decimal values between zero and one, the following transformation was performed:

$Y' = \text{ARCSIN} \sqrt{Y}$, where

Y = original value (before transformation), and

Y' = new value (after transformation).

Figures 6, 7, and 8 are representative of the data transformation's success, as they visually illustrate the dramatic difference in the curves, before and after the transformations.

The measure of academic aptitude from the SFTAA (IQ score) satisfied the assumption, so no transformation was needed.

In addition, confidence bounds were found for the differences between the programs. Ninety-five percent confidence bounds were obtained by adding and subtracting twice the standard error of the difference from the mean difference. The resulting interval should give an indication of the magnitude of the difference between programs (Bilingual vs. Regular) in each case.

In relation to the statistical validity and reliability of the statistical test and analysis, it should be stated that it is probable that the tests run on the separate variables (reading, language arts, mathematics, academic aptitude) are not independent: i.e., the correlation between/among the scores in the different tests is high (Comprehensive Tests of Basic Skills (CTBS), Technical Bulletin No. 1, Form S, 1974, pp. 46-49). However, due to the fact that the sample size is suitably large and randomly selected, it can be assumed that the correlation between the variables will not affect, to a great degree, the conclusions drawn.

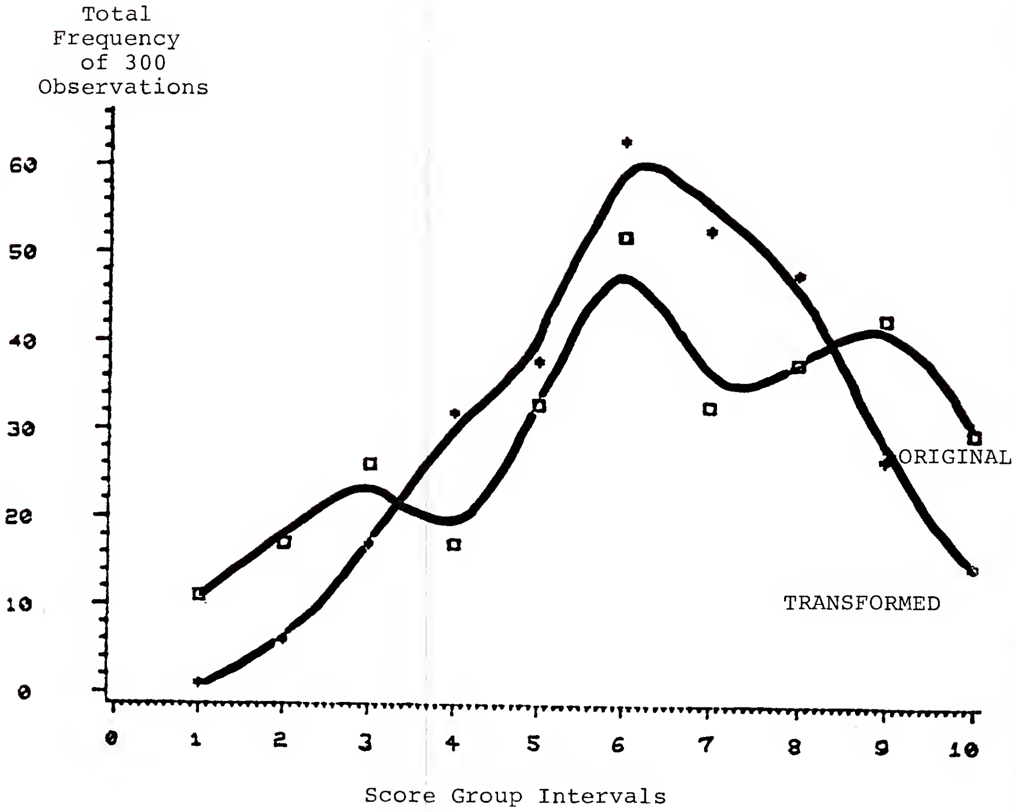


Figure 6

Reading Percentile Transformation

Plot produced by GPLOT Procedure of Statistical Analysis System (SAS), 1981

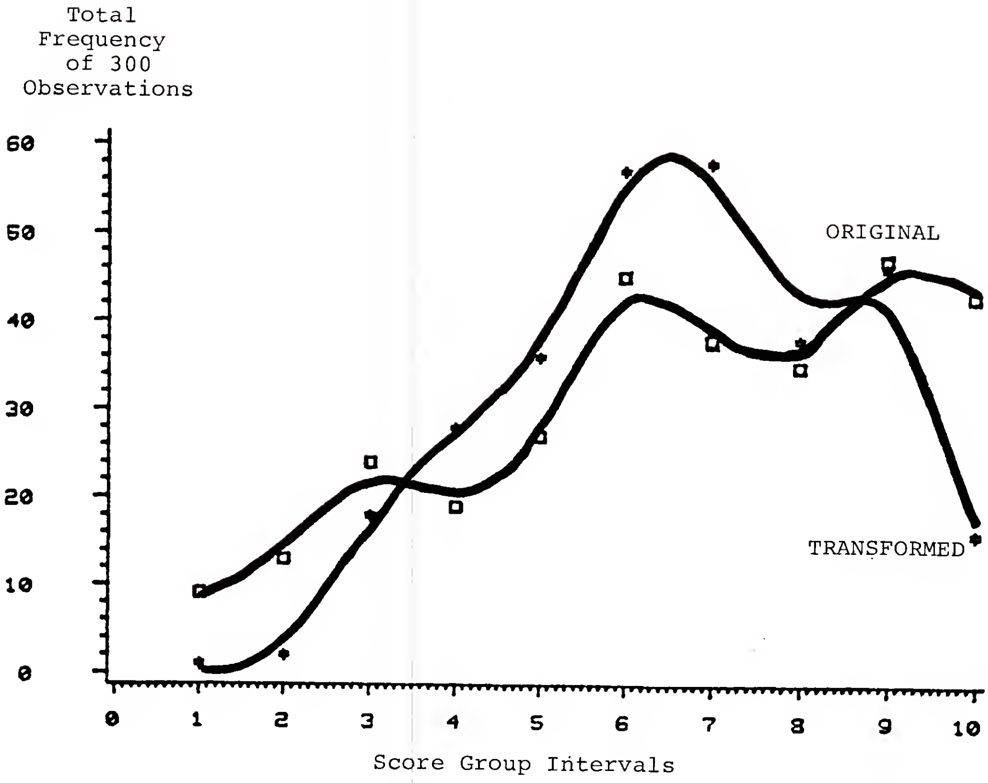


Figure 7

Language Arts Percentile Transformation

Plot produced by GPLOT Procedure of Statistical Analysis System (SAS), 1981

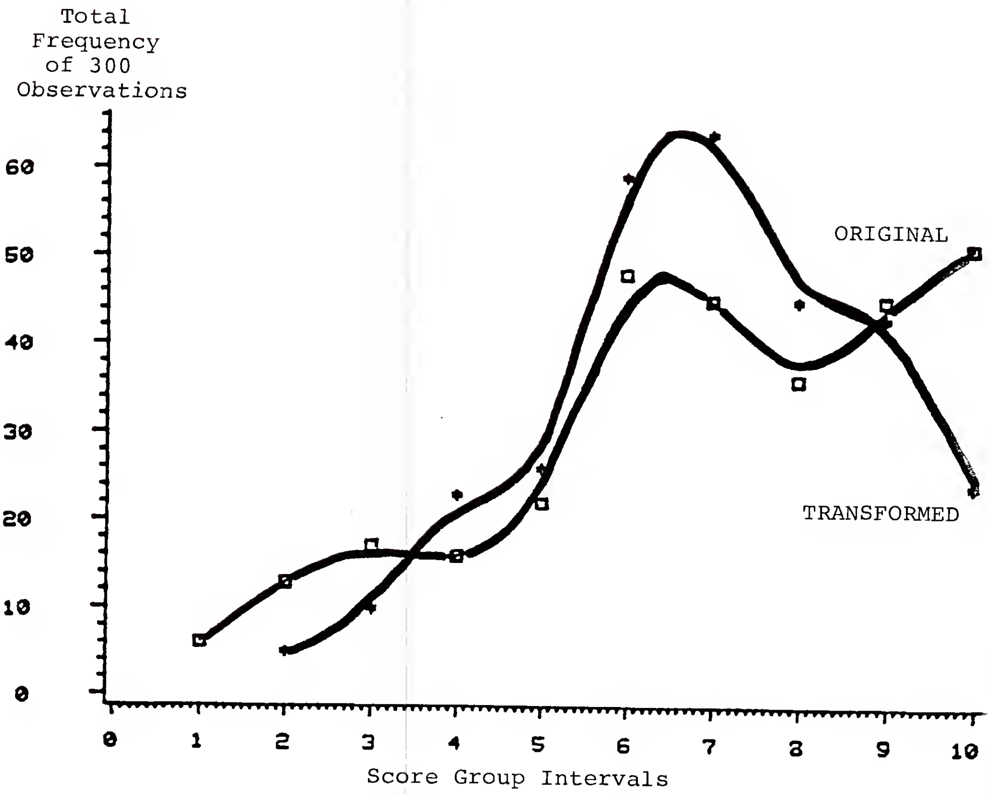


Figure 8

Mathematics Percentile Transformation

Plot produced by GPLOT Procedure of Statistical Analysis System (SAS), 1981

The preceding three figures contrast the CTBS reading, language arts, and mathematics percentile score plots in both original and transformed states. The □'s are the original data plots; the *'s represent the transformed distribution. The set of scores for each subject area was split into ten equally-spread intervals, or score groups, on the horizontal axis. The frequency in each interval out of the total 300 observations appears on the vertical axis.

□ Original Score (Percentile)	Score Group	* Transformed Score
0 - 10	1	0.00 - 0.15
11 - 20	2	0.15 - 0.30
21 - 30	3	0.30 - 0.45
31 - 40	4	0.45 - 0.60
41 - 50	5	0.60 - 0.75
51 - 60	6	0.75 - 0.90
61 - 70	7	0.90 - 1.05
71 - 80	8	1.05 - 1.20
81 - 90	9	1.20 - 1.35
91 - 100	10	1.35 - 1.50

Notes

1. This information from the 1980 census was obtained from magnetic tape containing data manipulated by electronic data processing. The tape was processed to print the ethnic distribution of the State of Florida.

CHAPTER IV

FINDINGS

The findings of the study and the results of the significance testing are reported in this chapter. Because the study consists of four parts, the findings for each are reported separately, as follows:

First, the results of the analysis of the CTBS reading subtest data are presented (Null Hypotheses 1, 2, and 3). These findings are summarized in Table 8.

Second, the results of the analysis of the CTBS language arts subtest data are presented (Null Hypotheses 4, 5, and 6). These findings are summarized in Table 9.

Third, the results of the analysis of the CTBS mathematics subtest data are presented (Null Hypotheses 7, 8, and 9). These findings are summarized in Table 10.

Finally, the results of the analysis of the SFTAA score data are presented (Null Hypotheses 10, 11, and 12). These findings are summarized in Table 11.

CTBS: Reading Subtest

Hypothesis 1

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS reading subtest.

TABLE 8

ANALYSIS OF CTBS READING SUBTEST SCORES
(Hypotheses 1, 2, and 3)

ANOVA: Reading Scale Scores vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	233.30	<.01
Program	1	88.80	<.01
Grade x Program	2	2.34	.098
Error	294		

ANOVA: Reading Percentiles (Transformed) vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	2.60	.076
Program	1	108.20	<.01
Grade x Program	2	7.10	<.01
Error	294		

95 Percent Confidence Bounds for Reading Scale Score Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	438.5	347.8	89.8	10.4	69.0	110.6
5	503.7	452.8	50.9	12.4	26.1	75.7
8	622.2	554.4	67.8	15.1	37.6	98.0

Approx. 95 Percent Confidence Bounds for Reading Percentile Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	75.8	37.0	38.8	4.0	30.8	46.8
5	66.4	47.0	19.4	4.5	10.4	28.4
8	71.3	52.6	18.7	4.1	10.5	26.9

TABLE 9

ANALYSIS OF CTBS LANGUAGE ARTS SUBTEST SCORES
(Hypotheses 4, 5, and 6)

ANOVA: Language Arts Scale Scores vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	111.3	<.01
Program	1	84.8	<.01
Sex	1	4.3	.038
Grade x Program	2	1.6	.204
Error	293		

ANOVA: Language Arts Percentiles (Transformed) vs. Effects of Cor. Model

Source	df	F Ratio	p
Grade	2	1.3	.284
Program	1	100.3	<.01
Sex	1	4.5	.035
Grade x Program	2	3.4	.036
Error	293		

95 Percent Confidence Bounds for Language Arts Scale Score Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	480.8	395.4	83.8*	10.0	63.8	103.8
5	521.8	466.8	54.7*	12.0	30.7	78.7
8	601.7	540.3	61.9*	15.5	30.9	92.9

Approx. 95% Confidence Bounds for Language Arts Percentile Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	79.0	44.4	34.6	3.9	26.8	42.4
5	69.6	47.6	22.0	4.7	12.6	31.4
8	73.3	53.5	19.8	4.5	10.8	28.8

*Difference adjusted for significant sex effect

TABLE 10

ANALYSIS OF CTBS MATHEMATICS SUBTEST SCORES
(Hypotheses 7, 8, and 9)

ANOVA: Mathematics Scale Scores vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	314.1	<.01
Program	1	68.9	<.01
Grade x Program	2	0.3	.722
Error	293		

ANOVA: Mathematics Percentiles (Transformed) vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	6.5	<.01
Program	1	84.3	<.01
Grade x Program	2	3.0	.054
Error	293		

95 Percent Confidence Bounds for Mathematics Scale Score Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	415.0	352.1	62.9	9.5	43.9	81.9
5	492.0	439.4	52.6	11.4	29.8	75.4
8	612.5	561.8	50.7	13.5	23.7	77.7

Approx. 95 Percent Confidence Bounds for Mathematics Percentile Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	76.2	45.1	31.1	4.2	22.7	39.5
5	72.5	51.2	21.3	4.5	12.3	30.3
8	79.2	62.9	16.3	3.8	8.7	23.9

TABLE 11

ANALYSIS OF SFTAA ACADEMIC APTITUDE MEASURE SCORES
(Hypotheses 10, 11, and 12)

ANOVA: IQ Scores vs. Effects of Corrected Model

Source	df	F Ratio	p
Grade	2	0.3	.766
Program	1	72.0	<.01
Grade x Program	2	1.7	.191
Error	294		

95 Percent Confidence Bounds for IQ Score Difference

Grade	Bilingual Mean	Regular Mean	Mean Difference	St. Error of Difference	95% Lower Bound	95% Upper Bound
3	112.4	97.7	14.7	2.3	10.1	19.3
5	109.6	97.9	11.7	2.4	6.9	16.5
8	108.7	100.2	8.5	2.4	3.7	13.3

(See Table 8). After fitting the GLM with the scale scores for all grades combined (3, 5, and 8), the only factors determined to be statistically significant at the $\alpha = .05$ level were:

1. Main Effects for Grade
2. Main Effects for Program.

The Main Effects for Grade were probably due to the nature of the very type of test that the CTBS is: the farther you go in school, the higher scale score you are expected to obtain. "The Expanded Standard Scores (Scale Scores) are produced from a single, equal interval scale of scores across all grades for use with all levels of CTBS/S. The Expanded Standard Score is expressed in three-digit numbers, ranging from 000 through 999. These Scale Scores enable the user to chart a student's growth from the beginning of school through Grade 12" (Comprehensive Tests of Basic Skills (CTBS): Examiner's Manual, Level 1, Form S, 1974, p. 61).

The Grade-by-Program Interaction achieved an attained significance level of just under $p = .10$.

Since the Interaction was significant at a fairly low level ($\alpha = .10$), it was warranted that we analyze the Program Effects at each grade level.

Confidence bounds using the ANOVA results could be established for the difference in the mean scale scores of the Bilingual and Regular Programs in grade 3. Because this interval does not enclose the value of zero, then the null hypotheses can be rejected. Furthermore, since the confidence interval is comprised exclusively of positive values, it can be safely concluded that the Bilingual Program Group achieved a higher mean scale score, or a more desirable average performance in reading in grade 3 than did the Regular Program Group. The magnitude of difference is at least 69.0 but no more than 110.6, according to these 95 percent confidence bounds.

An equivalent analysis was performed with the transformed percentile rank scores data. From the results, it can be concluded that the Bilingual Program Group had a higher average percentile rank than did the Regular Program Group in grade 3. This conclusion agrees with the previous rejection. Therefore,

$1\ H_o$ = REJECTED

Hypothesis 2

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 5, as measured by the result scores of the CTBS reading subtest.

(See Table 8). The grade 5 reading scale scores test for differences in the mean scores of the Bilingual and Regular Programs. This was an extension of the Hypothesis 1 analysis due to the previously mentioned Grade-by-Program Interaction. The 95 percent confidence bounds for the difference in mean scale scores of the Bilingual and Regular Programs in grade 5 do not enclose zero. Therefore, Hypothesis 2 can be rejected. The equivalent analysis using the transformed percentile data produced an identical conclusion. For grade 5, the Bilingual Program Group achieved a higher mean scale score by a magnitude of difference of at least 26.1 but no more than 75.7 scale points, and also a higher average percentile rank than the Regular Program Group. Therefore,

$2\ H_o$ = REJECTED

Hypotheses 3

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS reading subtest.

(See Table 8). The grade 8 reading scale scores test for differences in the mean scores of the Bilingual and Regular Program. This was also an extension of Hypotheses 1 and 2 analysis due to the previously mentioned Grade-by-Program Interaction. The 95 percent confidence bounds for the difference in mean scale scores of the Bilingual and Regular Programs in grade 8 do not enclose zero. Therefore, Hypothesis 3 can be rejected. The equivalent analysis using the transformed percentile data yielded the same conclusion. For grade 8, the Bilingual Program Group achieved a higher mean scale score by a magnitude of difference of at least 37.6 but no more than 98.0 scale points, and also a higher average percentile rank than the Regular Program Group. Therefore,

$$3\ H_o = \text{REJECTED}$$

CTBS: Language Arts Subtest

Hypothesis 4

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS language arts subtest.

Hypothesis 5

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 5, as measured by the result scores of the CTBS language arts subtest.

Hypothesis 6

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS language arts subtest.

(See Table 9). After fitting the GLM with the language arts scale scores for all grades, only the Main Effects for Grade, Sex, and Program were found to be significant at the $\alpha = .05$ level. Since there was insufficient evidence of a Grade-by-Program Interaction, the overall test of the differences in mean scale scores of the Bilingual and Regular Program Groups can be extended over all grade levels considered in the study; i.e., 3, 5, and 8.

The Main Effect $\underline{F}$ test for program mean differences was highly significant and the corresponding 95 percent confidence bounds for the difference in the means of the Bilingual and Regular Program Groups did not enclose zero. Therefore, the hypotheses can be rejected for all grades in the study (3, 5, and 8). The Bilingual Program Group achieved a higher mean scale score than the Regular Program Group by a magnitude of difference of at least 51.9 but no more than 81.1 scale points. The precision of this range estimate of the difference is better than that of the individual grade confidence bounds, since there are three times as many subjects because three grades (3, 5, and 8) are included. However, separate confidence intervals for each grade, while less precise, do not contradict the conclusion of different program group means.

The equivalent analysis with the transformed percentile ranks, along with indicating a significant Program Main Effect, did not show a significant Grade-by-Program Interaction. As a consequence, it was warranted that a separate analysis be run on each grade in order to confirm the rejection of hypotheses 4, 5, and 6. Nonetheless, in grades 3, 5, and 8, the approximate confidence bounds for the difference in average percentile rank indicated the Bilingual Program Group higher than the Regular, by more than 10 percentile ranks. Therefore,

4 H_o = REJECTED

5 H_o = REJECTED

6 H_o = REJECTED

CTBS: Mathematics Subtest

Hypothesis 7

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 3, as measured by the result scores of the CTBS mathematics subtest.

Hypothesis 8

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 5, as measured by the result scores of the CTBS mathematics subtest.

Hypothesis 9

> There is no significant difference between the Bilingual and Regular Program groups in achievement performance for grade 8, as measured by the result scores of the CTBS mathematics subtest.

(See Table 10). After fitting the GLM with the mathematics scale scores for all grades, only the Main Effects for Grade and Program were significant at the $\alpha = .05$ level. Since there was insufficient evidence of a Grade-by-Program Interaction, the overall test of the differences in mean scale scores of the Bilingual and Regular Program Groups can be extended over all grade levels considered in the study; i.e., 3, 5, and 8.

The Main Effect F test for program mean differences was highly significant and the corresponding 95 percent confidence bounds for the difference in the means of the Bilingual and Regular Program Groups did not enclose zero. Therefore, the hypotheses can be rejected for all grades in the study (3, 5, and 8). The Bilingual Program Group achieved a higher mean scale score than the Regular by a magnitude of difference between 42.0 and 68.8 scale points. This estimate of the difference is more precise than the individual grade confidence bounds, since there are three times as many subjects because three grades (3, 5, and 8) are included. However, separate confidence intervals for each grade, while less precise, do not contradict the rejection of the hypotheses. Therefore,

7 H_o = REJECTED

8 H_o = REJECTED

9 H_o = REJECTED

SFTAA: Academic Aptitude Measure

Hypothesis 10

> There is no significant difference between the Bilingual and Regular Program groups in mental ability performance for grade 3, as measured by the result scores of the SFTAA.

Hypothesis 11

> There is no significant difference between the Bilingual and Regular Program groups in mental ability performance for grade 5, as measured by the result scores of the SFTAA.

Hypothesis 12

> There is no significant difference between the Bilingual and Regular Program groups in mental ability performance for grade 8, as measured by the result scores of the SFTAA.

(See Table 11). After fitting the GLM with the academic aptitude scores for all grades, the only effect to be found significant was the Program Main Effect. Since there was insufficient evidence of a Grade-by-Program Interaction, the overall of the differences in the mean scores of the Bilingual and Regular Program Groups can be extended over all grade levels considered in the study; i.e., 3, 5, and 8.

The Main Effect F test for program mean differences was highly significant and the 95 percent confidence bounds for the difference in the means of the Bilingual and Regular Program Groups did not enclose zero. Therefore, the hypotheses can be rejected for all grades in the study (3, 5, and 8). The Bilingual Program Group achieved a higher academic aptitude score than the Regular by a magnitude of difference of between 8.9 and 14.4 points. This estimate of the difference is more precise than the individual grade estimates, since there are three times as many subjects because three grades (3, 5, and 8) are included. However, the separate grade confidence intervals, while less precise, do not contradict the rejection of the hypotheses. Therefore,

10 H_o = REJECTED

11 H_o = REJECTED

12 H_o = REJECTED

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Based on the findings reported in Chapter IV, this chapter reviews the conclusions of the study, presents its educational implications, and suggests recommendations for further research and potential educational implementations.

Conclusions

The purpose of this investigation was to determine how the Spanish-dominant, low socioeconomic Hillsborough County Bilingual Education Program students who began three years ago as Lau Language Proficiency Category A and were no less than Category C_1 at the time of data collection compared in testing performance to their comparable counterparts in the Regular Education Program.

The results obtained in this study show, through rejection of all twelve null hypotheses, that in every case there was a significant difference between the two groups. This difference, statistically significant at a level of $\alpha = .05$, and at times $\alpha = .01$, depending on the variable and grade in question, demonstrates that testing performance in the selected examinations was consistently superior for students in the Bilingual Education Program in all four target areas (reading, language arts, mathematics, and a measure of academic aptitude). Tables 8, 9, 10, and 11 in Chapter IV verify this fact. A summary of the most pertinent information, which is the mean difference between the scores of the two groups for the scale and percentile scores in the three subject areas and for the IQ scores (measure of academic aptitude), is drawn from the four previously mentioned tables, and is presented in Table 12, as follows:

TABLE 12

SUMMARY OF MEAN DIFFERENCES BETWEEN THE SCORES
OF THE BILINGUAL EDUCATION AND
REGULAR PROGRAMS

SCALE SCORE				PERCENTILE SCORE			
Mean Difference				Mean Difference			
Grade	Reading	Language	Mathematics	Grade	Reading	Language	Mathematics
3	89.8	83.8	62.9	3	38.8	34.6	31.1
5	50.9	54.7	52.6	5	19.4	22.0	21.3
8	67.8	61.9	50.7	8	18.7	19.8	16.3

IQ SCORE	
Grade	Mean Difference
3	14.7
5	11.7
8	8.5

The rejection of hypotheses 10, 11, and 12, relating to the academic aptitude measure, is a particularly provocative and puzzling finding which raises several questions discussed in the implications. These three rejections may be explained in one of two ways.

First, it may be assumed that both the students in the Control and Experimental Groups entered their respective educational programs with approximately the same intellectual ability, but that the experience undergone in bilingual education classes contributed favorably to improving the achievement and aptitude test-taking skills of the Bilingual Education Program students over the same test-taking skills of the Regular Program students.

Second, it should be considered that the possibility exists that the students in the Bilingual Education Program group may, in fact, have had superior academic aptitude from the outset of this experiment. Were this the case, then the difference in achievement test scores could be attributed, at least in part, to differences in innate ability.

Another interesting observation that could be extracted from the data presented in Table 12 is that the higher the grade level; i.e., the older the student, the less his/her IQ score seems to be affected by either Bilingual Education or Regular Program. This trend occurred at approximately equal intervals of intensity from grades 3 to 5 (14.7 to 11.7) and grades 5 to 8 (11.7 to 8.5). This data suggest the possibility that the younger the child, the more effective either program was in improving his/her IQ score (measure of academic aptitude).

This study verifies the Zappert and Cruz (1977) research theory presented in Chapter II of this work. As their survey of Bilingual Education Program evaluations indicates, when variables such as SES, baseline data, initial language dominance and proficiency, and treatment duration are controlled, bilingual education is shown to produce higher achievement levels in non-English-dominant children than those programs that lack the bilingual education component.

Implications

At this point, it should be reiterated that the Bilingual Education Program teaches the limited English-speaking ability (LESA) student the subject matter material in his/her native language and provides intensive English-as-a-Second-Language (ESL) instruction, while, in contrast, the Regular Program leaves the child to independently "sink or swim."

Judging from the implications of these testing performance data, then, it appears that the Hillsborough County Bilingual Education Program is more effective than the Regular Program in increasing the achievement level of its Spanish-dominant students. These data indicate that after receiving their respective treatments (Bilingual vs. Regular) for three years, and after achieving a level of English language proficiency that qualified them to participate in the standardized testing program conducted by the county, the students who received the Regular Program instruction (Control Group) obtained scores lower than those who had been enrolled in the Bilingual

Education Program (Experimental Group) at a statistically significant level of at least $\alpha = .05$, and at times, $\alpha = .01$, depending on the subtest and grade in question.

One or more of the following implications emerging from the conclusions drawn from the superior outcome of the Bilingual Education Program group on the academic aptitude measure appear to be worthy of consideration:

1. The students in both the Regular (Control Group) and Bilingual (Experimental Group) Programs entered their respectice educational programs with approximately equal mental ability and potential. However, exposure to bilingual education classes (treatment) and the effects of this experience, may have contributed positively to improving the achievement and aptitude test-taking ability of the Bilingual Education students over that of the Regular Program students.
2. The Bilingual Education Program group students are, in effect, more able than the Regular Program students.
3. The research data suggest the possibility that in both Control and Experimental groups, it may be more likely that the younger the student (the lower the grade) the more favorably affected by either Bilingual Education or Regular Program in relation to IQ score (a measure of academic aptitude). The older the student (the higher the grade), the less the favorable effect that either Bilingual Education or Regular Program appeared to have upon IQ

score (a measure of academic aptitude). Were this the case, then the decreasing mean difference in test scores as the grades increase from 3 to 5 to 8 (see Table 12) may be attributed, at least in part, to differences in age.

4. There is a high correlation between the academic aptitude measure (IQ score) and the other three measures (reading, language arts, and mathematics).
5. The Bilingual Education Program was more effective than the Regular Program in teaching the skills needed to take an aptitude test of this nature to the LESA students.
6. Bilingual or multilingual ability does, in fact, facilitate the development of an intellectual diversity or "mental flexibility" (Lambert & Peal, 1972), which is intimately related to the skills required to answer the types of questions asked in a test of this genre. If so, then the Bilingual Education Program taught these English language skills to its students much more successfully than did the Regular Program.

Recommendations

1. Although in this study SES was controlled to a degree by Lunch Categories, it was found that, in addition to being imprecise in Category C, this measure was confounded by social factors in the lives of the children. It is therefore suggested that any further research attempt to locate a more precise measure for the SES variable.

2. It is recommended that a longitudinal follow-up study be conducted which pursues the same students beyond grades 3, 5, and 8 addressing long-term effects so as to determine if the gains achieved endure over time, and to examine such other areas as success on the job, success in college, development of self-concept, and the achievement of life goals.
3. This study adds to a large body of research which has shown that provision of bilingual education is effective in helping students achieve a higher level of performance. It seems that the next priority in the process may be to address the issue of program design in order to explore the relative effectiveness of various approaches and combinations for different age groups and populations of IESA students.
4. The Control Group sample for this study in Hillsborough County was drawn from the 10 percent of children (Lobato, 1981) who qualify for the bilingual option, but who waiver out of the Bilingual Education Program. It is recommended that a more concerted effort be made to inform these children's parents of these research results and those of other studies, so that they may more clearly understand the benefits of the Bilingual Program.[1]
5. Because age may be an important factor in determining the degree of effect that both Bilingual Education and Regular Programs (or any other educational program) may

have upon students' IQ scores (measures of academic aptitude), it is suggested that more attention be focused in the direction of researching the correlation between age and program effect.

6. As discussed in Chapter I, Bilingual Education faces the possibility of being cut back because of political and economic considerations. It is essential to bring the issue to factual grounds by disseminating the results of research such as this study to legislators and other decision-makers at the state and national levels.

This investigation is intended to provide a fresh insight into the urgently needed research of bilingual education, and to encourage that further attention be focused on conducting more statistically rigorous studies in the area. This research will possibly yield a clearer understanding of the relationship which seemingly exists between choice of program implementation and program effectiveness, and generate future exploration in this field.

By shedding a new light on the old myth that bilingual education is not an effective tool, it is hoped that all children will be allowed to receive equal educational opportunity, as well as equal benefit from a learning experience that will grant them a more worthwhile and intense quality of life.

Notes

1. An excellent media resource for publicizing bilingual education is: N. M. Goonen, S. B. Angulo, and M. A. Vélez, Bilingual Education in Florida: A Perspective, Miami, Florida: Center for Latino Education/Florida International University, 1981. (Film; narrated by Governor Bob Graham).

APPENDIX A

DOCUMENTATION OF THE HISPANIC MINORITY'S GROWTH IN THE U.S.

(A) Federal Register, Vol. 45, No. 152, Tuesday, August 5, 1980, Proposed Rules, page 52053, reads:

> Estimates by the National Institute of Education and the National Center for Educational Statistics place the number of limited-English-proficient school-age children at over three and a half million. The overwhelming majority of these children were born in this country. Of all the limited-English-proficient children in this country, the largest group is Hispanic. . . .
>
> Students who do not use English well enough to participate effectively in classes where the language of instruction is English often face difficulties obtaining an appropriate education. These limited-English-proficient students face two main problems. First, they must be taught English. Second, while they are learning English, they must have the opportunity to keep pace with their English-speaking classmates who are learning other subjects. Educational practices that do not address these problems impose substantial and unnecessary burdens on these students.
>
> In the past, too many schools have failed to meet the needs of limited-English-proficient students. Students who rely on a language other than English drop out of school at a much higher rate than that of members of their own ethnic, racial, or socio-economic group who speak English. For Hispanic students who primarily speak Spanish, this drop-out rate is more than three times higher than that of Hispanic students who primarily speak English.

(B) Time, October 16, 1978 issue's cover story title is "Hispanic Americans--Soon: The Biggest Minority." In its theme-related article entitled, "It's Your Turn Under the Sun," pp. 48-61, it is reported that, according to U.S. Government figures, there were 12.0 million declared Hispanics in 1978, yet the Census dares to estimate 19.0 million, if including illegal aliens.

(C) Newsweek, July 7, 1980 issue's cover story, "The New Immigrants," alludes to the influx of Cuban refugees that was initiated in mid-April of 1980 by way of the Freedom Flotilla and is still in progress at the time of this writing. This article quotes that, in Cubans alone, the State Department estimated 117,000 would enter the U.S. during the fiscal year 1980.

(D) The New York Times, August 8, 1979, pp. A-1, A-12, reports in an article entitled, "Hispanic Influx Moving U.S. Closer to Bilingualism" by John M. Crewdson, the Spanish-speaking population's actual number is placed by some estimates at almost 15 million. . . . It is estimated that by the middle of the next decade there will be more Hispanics in this country than Blacks.

(E) The Oblate World, April 1979, p. 1, notes in an article entitled, "Hispanic Americans Fast Growing Minority,"

> Hispanic Americans, the fastest growing minority group in the U.S., are expected by some demographers to replace blacks as the leading ethnic minority by 1985. . . . The Hispanic population has increased at a rate of about 33% to more than 12 million. Since 1970, the U.S. population increased by only 6.1% among whites and 11% among blacks.

(F) Social Education, February 1979, pp. 100-116, an issue dedicated to the theme of "New Perspectives on Hispanic Americans," informs us that "the National Council of La Raza, the largest Hispanic research and advocacy organization in the United States, estimates that there are 16 million Hispanics."

APPENDIX B

LAU ENGLISH PROFICIENCY CATEGORIES

Category	Specifications
*A	Monolingual speaker of a language other than English exclusively.
B	Predominant speaker of a language other than English.
C_1	Bilingual speaker of English and some other language, but who has sufficient difficulty speaking, reading, writing or understanding the English language to deny him/her the opportunity to learn successfully in classrooms where the language of instruction is English. This student is underachieving at one standard deviation below the district's norms, as determined by an objective measure of non-ethnic/racial minority students.
C_2	Bilingual speaker of English and some other language and is reading, writing and understanding the English language enough to provide him/her with the opportunity to learn successfully in classrooms in which the language of instruction is English.
D	Predominant English speaker but has facility in some other language.
E	Monolingual speaker of English exclusively.

(Adapted from the Task Force Findings Specifying Remedies Available for Eliminating Past Educational Practices Ruled Unlawful Under "Lau vs. Nichols," Office for Civil Rights, Summer 1975, p. 3, as appearing in N. Lobato's Bilingual Program Handbook for Secondary Schools of Hillsborough County, 1979, p. 32).

*This is the Category of direct relevance to the study since all its subjects were classified under this language proficiency category at the time of entry into the school system. The original Lau Remedies offer only one Category for each respective letter (English Proficiency Level); however, many districts such as Hillsborough and Alachua Counties, Florida, have further subdivided Category C for the sake of greater specificity.

APPENDIX C

BILINGUAL PROGRAM TRANSITIONING LETTERS TO PARENTS
(English and Spanish Versions)

BILINGUAL PROGRAM TRANSITIONING LETTER TO THE PARENTS

To the Parents/Guardian of ______________________ Date: __________

Your son/daughter has successfully met the criteria for transitioning out of the Bilingual Program at ______________________ School. Due to the progress which your child has made in the Bilingual Program, he/she has been placed in a regular classroom at ______________________ School. If you have any questions concerning this matter please contact me.

Sincerely yours,

____
BILINGUAL TEACHER

CARTA A LOS PADRES DE LA TRANSICIÓN DEL PROGRAMA BILINGÜE

Para los padres/guardianes de ______________________ Fecha: __________

Su hijo/hija ha realizado el criterio para salir del programa bilingüe en la escuela ______________________. Debido al progreso de su hijo/hija en el programa bilingüe, él/ella ha sido colocado en una clase regular en la escuela ______________________. Si ustedes tuviesen alguna pregunta con respecto a esto, pónganse en contacto conmigo por favor.

Sinceramente,

Maestro/a Bilingüe

APPENDIX D

ADDITIONAL INFORMATION CONCERNING INSTRUMENTATION USED IN STUDY

Comprehensive Tests of Basic Skills (CTBS), Reading and Language Arts Section

The CTBS

> is not intended to measure achievement in specific course content as reflected in textbooks for various grade levels. The tests are intended for national use, by students who have been taught according to various approaches. Test items should be answered as readily by students taught according to a traditional approach as by those who are taught according to any of the newer approaches. However, performance on these tests necessarily depends on the possession of relevant knowledge and is affected by the grade level at which a skill is first introduced. It is assumed that all curricula are formulated to increase, through the grades, a student's competence in dealing with content of increasing difficulty. These tests aim to measure, therefore, those skills common to all curricula. (Examiner's Manual, 1974, p. 1)

Hillsborough County claims that

> the quality of the CTBS package is evidenced by the reported reliabilities of the subtests, Total Area Tests, and Total Batteries. These KR #20 reliabilities are reported [in the table that follows]. The validity of a standardized instrument as a content achievement measure depends on the degree to which it reflects the curriculum of a school system's academic program. In 1974, the Comprehensive Tests of Basic Skills (CTBS) test series was selected as the testing package which most adequately covered the topics that are covered in the Hillsborough County school curriculum. (Emergency School Aid Act, Bilingual Project 1979-1980, 1978, pp. 72-73)

KR#20 Reliability Coefficients for Comprehensive Tests of Basic Skills Subtests, Total Areas, and Total Batteries Levels 1, 2, 3, 4

Components	KR#20 Reliability Coefficients			
	Level 1	Level 2	Level 3	Level 4
Reading Vocabulary	.92	.92	.93	.91
Reading Comprehension	.94	.92	.92	.91
Total Reading	.96	.96	.96	.95
Spelling	.89	.89	.88	.88
Language Mechanics	.85	.82	.77	.78
Language Expression	.90	.88	.89	.85
Total Language	.95	.94	.94	.93
Math Computation	.95	.92	.94	.94
Math Concepts	.89	.82	.85	.86
Math Applications	.91	.89	.89	.87
Total Math	.97	.95	.96	.96
Total Battery	.98	.98	.98	.98

Source: (Emergency School Aid Act: Bilingual Project 1979-1980, 1978, p. 73)

APPENDIX E

LETTER TO PARENTS REGARDING THE BILINGUAL ITINERANT PROGRAM

CARTA A LOS PADRES DEL PROGRAMA BILINGÜE ITINERANTE

Fecha ____________________

Estimados padres,

El Programa Bilingüe del Sistema Escolar del Condado de Hillsborough provee a los estudiantes de fondo linguístico extranjero la oportunidad de recibir los servicios de un maestro bilingüe.

El maestro itinerante instruirá a los estudiantes que están matriculados en escuelas donde no ofrecen clases bilingües en el idioma extranjero apropriado.

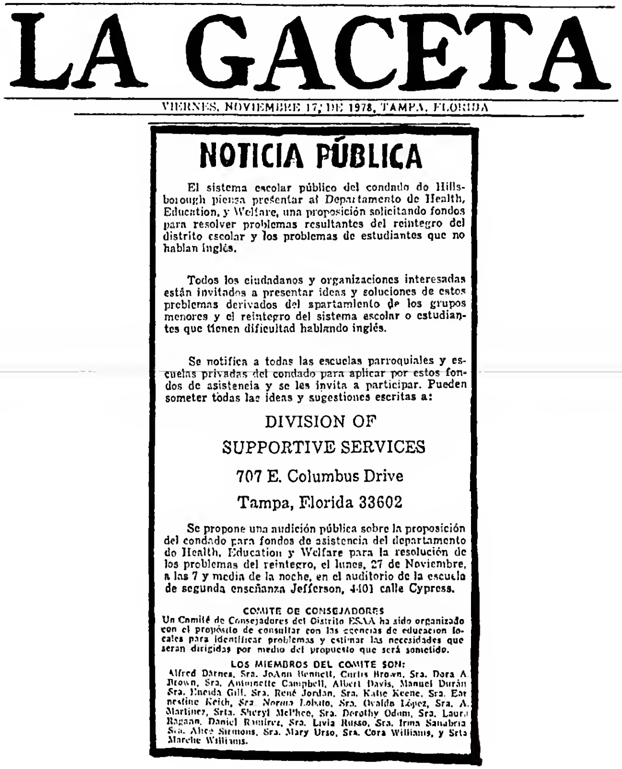
El maestro itinerante visitará a estos estudiantes dos o tres veces semanalmente. Cada visita durará aproximadamente una hora. El Programa Bilingüe Itinerante no interferirá con el programa escolar normal.

Su hijo/a califica para los servicios de un maestro bilingüe itinerante. Las instrucciones comenzarán muy pronto.

Si tienen ustedes alguna pregunta, o si quisiesen mas información, favor de llamar a la Oficina Bilingüe, al 272-4465.

Sinceramente,

____
Director



LA GACETA

VIERNES, NOVIEMBRE 17, DE 1978, TAMPA, FLORIDA

NOTICIA PÚBLICA

El sistema escolar público del condado de Hillsborough piensa presentar al Departamento de Health, Education, y Welfare, una proposición solicitando fondos para resolver problemas resultantes del reintegro del distrito escolar y los problemas de estudiantes que no hablan inglés.

Todos los ciudadanos y organizaciones interesadas están invitados a presentar ideas y soluciones de estos problemas derivados del apartamiento de los grupos menores y el reintegro del sistema escolar o estudiantes que tienen dificultad hablando inglés.

Se notifica a todas las escuelas parroquiales y escuelas privadas del condado para aplicar por estos fondos de asistencia y se les invita a participar. Pueden someter todas las ideas y sugestiones escritas a:

DIVISION OF
SUPPORTIVE SERVICES
707 E. Columbus Drive
Tampa, Florida 33602

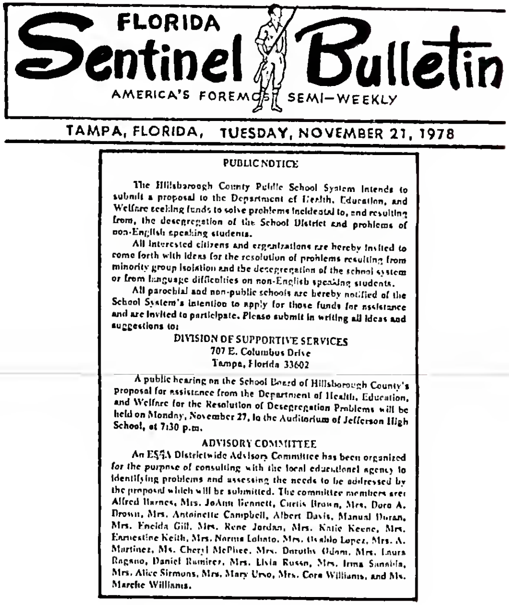
Se propone una audición pública sobre la proposición del condado para fondos de asistencia del departamento de Health, Education y Welfare para la resolución de los problemas del reintegro, el lunes, 27 de Noviembre, a las 7 y media de la noche, en el auditorio de la escuela de segunda enseñanza Jefferson, 4401 calle Cypress.

COMITE DE CONSEJADORES

Un Comité de Consejadores del Distrito ESAA ha sido organizado con el propósito de consultar con las agencias de educacion locales para identificar problemas y estimar las necesidades que seran dirigidas por medio del propuesto que será sometido.

LOS MIEMBROS DEL COMITE SON:

Alfred Darnes, Sra. JoAnn Bennett, Curtis Brown, Sra. Dora A Brown, Sra. Antoinette Campbell, Albert Davis, Manuel Durán Sra. Eneida Gill, Sra. René Jordan, Sra. Katie Keene, Sra. Earnestine Keith, Sra. Norma Lobato, Sra. Ovaldo López, Sra. A. Martinez, Srta. Sheryl McPhee, Sra. Dorothy Odom, Sra. Laura Ragano, Daniel Ramirez, Sra. Livia Russo, Sra. Irma Sanabria Sra. Alice Simmons, Sra. Mary Urso, Sra. Cora Williams, y Srta Marche Williams.



FLORIDA Sentinel Bulletin

AMERICA'S FOREMOST SEMI-WEEKLY

TAMPA, FLORIDA, TUESDAY, NOVEMBER 21, 1978

PUBLIC NOTICE

The Hillsborough County Public School System intends to submit a proposal to the Department of Health, Education, and Welfare seeking funds to solve problems incidental to, and resulting from, the desegregation of the School District and problems of non-English speaking students.

All interested citizens and organizations are hereby invited to come forth with ideas for the resolution of problems resulting from minority group isolation and the desegregation of the school system or from language difficulties on non-English speaking students.

All parochial and non-public schools are hereby notified of the School System's intention to apply for those funds for assistance and are invited to participate. Please submit in writing all ideas and suggestions to:

DIVISION OF SUPPORTIVE SERVICES
707 E. Columbus Drive
Tampa, Florida 33602

A public hearing on the School Board of Hillsborough County's proposal for assistance from the Department of Health, Education, and Welfare for the Resolution of Desegregation Problems will be held on Monday, November 27, in the Auditorium of Jefferson High School, at 7:30 p.m.

ADVISORY COMMITTEE

An ESAA Districtwide Advisory Committee has been organized for the purpose of consulting with the local educational agency to identifying problems and assessing the needs to be addressed by the proposal which will be submitted. The committee members are: Alfred Barnes, Mrs. JoAnn Bennett, Curtis Brown, Mrs. Dora A. Brown, Mrs. Antoinette Campbell, Albert Davis, Manual Duran, Mrs. Eneida Gill, Mrs. Rene Jordan, Mrs. Katie Keene, Mrs. Earnestine Keith, Mrs. Norma Lobato, Mrs. Osvaldo Lopez, Mrs. A. Martinez, Ms. Cheryl McPhee, Mrs. Dorothy Odom, Mrs. Laura Ragano, Daniel Ramirez, Mrs. Livia Russo, Mrs. Irma Sanabria, Mrs. Alice Simmons, Mrs. Mary Urso, Mrs. Cora Williams, and Ms. Marche Williams.

APPENDIX F

PUBLIC ANNOUNCEMENT OF BILINGUAL EDUCATION PROGRAM INCEPTION

APPENDIX G

FEDERAL REGISTER INFORMATION REGARDING BILINGUAL EDUCATION PROGRAM REQUIREMENTS

No significant differences in teacher qualifications, instructional content covered, instructional materials used, instructional objectives expected to fulfill, and quality of instruction exist between the Regular and Bilingual Program groups. The instruction must be

> given by a qualified bilingual teacher and shall be comparable in content, quality, objectives, and instructional materials to that offered students whose primary language is English. (Federal Register, Vol. 45, No. 152, Tuesday, August 5, 1980, p. 52069)

There is a pupil-teacher ratio equivalency in the Regular and Bilingual Program groups.

> The pupil-teacher ratio for classes or instructional groups taught bilingually must be at least comparable (i.e., within two students per teacher) to that of similar classes taught through English. (Federal Register, Vol. 45, No. 152, Tuesday, August 5, 1980, p. 52069)

Bilingual Program students will remain in that program for at least two years. "The two-year minimum is designed to give bilingual instruction an opportunity to work before the student is transferred out" (Federal Register, Vol. 45, No. 152, Tuesday, August 5, 1980, p. 52058).

REFERENCES

Altus, G. T. WISC patterns of a selective sample of bilingual school children. Journal of Genetic Psychology, 1953, 83, 241-248.

Anastasi, A. Psychological testing (3rd ed.). New York: Macmillan, 1968.

Andersson, T., & Boyer, M. Bilingual schooling in the United States (2nd ed.). Austin, Tex.: National Educational Laboratory Publishers, 1978.

Ausubel, D. P. A teaching strategy for culturally deprived pupils: Cognitive and motivational considerations. School Review, Winter 1963, 71, 454-463.

Balinsky, W. Integrated bilingual demonstration project for high schools: 1974-1975, 1975. (ERIC Document Reproduction Service No. ED 142 595).

Balkan, L. Les effets du bilinguisme français-anglais sur les aptitudes intellectuelles. Brussels, Belgium: Aimav, 1970.

Ben Zeev, S. The influence of bilingualism on cognitive development and cognitive strategy. (Doctoral dissertation, University of Chicago, 1972).

Bilingual program handbook: Hillsborough County School System. Tampa, Fl.: Educational Media Center, 1980.

Black, M. H. Characteristics of the culturally disadvantaged child. The Reading Teacher, 1965, 18, 465-470.

Blanco, G. The education perspective. In Bilingual education: Current perspectives/education (Vol. 4). Arlington, Va.: Center for Applied Linguistics, 1977.

Bowd, A. D. Linguistic background and nonverbal intelligence: A cross-cultural comparison. Journal of Educational Research, September 1974, 68 (1), 26-27.

Burton, J. L. Intelligence and intelligence testing. In M. Cowles (Ed.), Perspectives in the education of disadvantaged children. Cleveland, Ohio: The World Publishing Company, 1967.

Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally College Publishing Company, 1963.

Cantu, N. E. "My excuse-me tongue" or a Chicana in the English classroom, 1979. (ERIC Document Reproduction Service No. ED 175 030).

Census guide for 1980, Form D-3, Bureau of the Census, U.S. Department of Commerce, 1980.

Cohen, A. D. A sociolinguistic approach to bilingual education (3rd ed.). Rowley, Mass.: Newbury House Publishers, 1978.

Cohen, A. D., & Laosa, L. Second language instruction: Some research considerations. Curriculum Studies, 1976, 8 (2), 149-165.

Cohen, B. H. Evaluating bilingual education programs. Hingham, Mass.: Teaching Resources Corporation, 1979.

Cohen, S. P., Tucker, G. R., & Lambert, W. E. The comparative skills of monolinguals and bilinguals in perceiving phoneme sequences. Language and Speech, 1967, 10, 159-168.

Committee of 100. Tampa facts. Tampa, Fl.: Greater Tampa Chamber of Commerce, n.d.

Comprehensive Tests of Basic Skills (CTBS): Examiner's Manual. (Expanded ed.). Level 1, Form S. Monterrey, Cal.: CTB/McGraw-Hill, 1974.

Comprehensive Tests of Basic Skills (CTBS): Technical Bulletin. No. 1, Form S. Monterrey, Cal.: CTB/McGraw-Hill, 1974.

Crane, B. Crane Oral Dominance Test (CODT). Trenton, N.J.: Motivational Learning Programs, 1978.

Crewdson, J. M. Hispanic influx moving U.S. closer to bilingualism. The New York Times, August 8, 1979, pp. A-1, A-12.

Cummins, J. The influence of bilingualism on cognitive growth, 1976. (ERIC Document Reproduction Service No. ED 125 311).

Dade County Test of Language Development: Aural Comprehension (DCTLD-AC). Miami, Fl.: The School Board of Dade County, 1976.

Davis, E. M. Oral language and motor skills for non-English speaking children, 1973. (ERIC Document Reproduction Service No. ED 091 115).

Dickey, F. G. Frontal attack on cultural deprivation. Kappan, May 1964, 45, 398-400.

Emergency school aid act: Bilingual project 1979-1980. Tampa, Fl.: Hillsborough County Public Schools, 1978.

Engle, P. L. Bilingual education series (Vol. 3). Arlington, Va.: The Center for Applied Linguistics, 1975.

Fantini, M. D., & Weinstein, G. The disadvantaged: Challenge to education. New York: Harper & Row, 1968.

Federal Register. U.S. Department of Education, August 5, 1980, 45 (152), 52052-52076.

Feldman, C., & Shen, M. Some language-related cognitive advantages of bilingual five-year-olds. Journal of Genetic Psychology, 1971, 118, 235-244.

Fernández, E. W. Persons of Spanish origin in the United States. Social Education, February 1979, 43 (2), 104-107.

Fishman, J. A. Bilingualism, intelligence and language learning. Modern Language Journal, April 1965, 49 (4), 227-237.

Fishman, J. A. The sociology of language: An interdisciplinary social science approach to language in society. Rowley, Mass.: Newbury House Publishers, 1972.

Flores, D. J. An investigation of the long-term effects of bilingual education upon achievement, language maintenance and attitudes. (Doctoral dissertation, University of Florida, 1981).

For college students, lack of interest breeds ignorance of foreign affairs: ETS. Kappan, June 1981, 62 (10), 691.

The fourth annual report of the national advisory council on bilingual education for 1978-1979 (NACBE), Appendix A: Empirical evidence addressing the effectiveness of bilingual education, September 30, 1979.

Frazier, A. Broadening the experiences of the culturally disadvantaged. American Library Association Bulletin, 1964, 58, 523-526.

Goonen, N. M., Angulo, S. B., & Vélez, M. A. (Producers). Bilingual education in Florida: A perspective. Miami, Fl.: Center for Latino Education/Florida International University, 1981. (Film)

Graham, V. T. The intelligence of Italian and Jewish children. *Journal of Abnormal Psychology*, 1925, *20*, 371-376.

Groff, P. J. Dissatisfactions in teaching the culturally deprived child. *Kappan*, November 1963, *45*, 70-76.

Guilford, J. P. The structure of intellect. *Psychological Bulletin*, 1956, *53*, 267-293.

Halperin, M. To survive, we must teach foreign languages in our schools. *The American School Board Journal*, April 1981, *168* (4), 7.

Haro, C. M. Truant and low-achieving Chicano student perceptions of the high school system. *International Journal of Chicano Studies Research*, Spring-Summer-Fall 1977, *8*, 99-131.

Haubrich, V. The culturally different: New context for teacher education. *Journal of Teacher Education*, June 1963, *14*, 163-167.

Heras, I., & Nelson, K. E. Retention of semantic, syntactic, and language information by young bilingual children. *Psychonomic Science*, 1972, *29*, 391-393.

Hillsborough County's historic heritage. Tampa, Fl.: Hillsborough County Planning Commission, June 1974.

Hispanic Americans fast growing minority. *The Oblate World*, April 1979, p. 1.

Hispanic marketing. *Advertising Age*, April 6, 1981, *52* (15), pp. S1-S25.

Ianco-Worrall, A. D. Bilingualism and cognitive development. *Child Development*, 1972, *43*, 1390-1400.

Ippolito, G. Personal communication. Tampa, Fl.: March 4, 1981.

It's your turn under the sun. *Time*, October 16, 1978, *112*, 48-61.

Jacobs, J. F., & Pierce, M. L. Bilingualism and creativity. *Elementary English*, 1966, *43*, 499-503.

James, C. B. Bilingualism in Wales: An aspect of semantic organization. Educational Research, 1960, 2, 123-136.

Johnson, L. B. Bilingual education act of 1968. Washington, D.C.: Congressional Record Daily Digest, December 11, 1967, pp. S 18, 357.

Jones, W. R. A critical study of bilingualism and non-verbal intelligence. British Journal of Educational Psychology, 1960, 30, 71-76.

Jones, W. R. Bilingualism in Welsh education. Cardiff, Wales: University of Wales Press, 1966.

Jones, W. R., & Stewart, W. A. Bilingualism and verbal intelligence. British Journal of Psychology, 1951, 4, 3-8.

Kaplan, B. Issues in educating the culturally disadvantaged. Kappan, November 1963, 45, 70-76.

Karr, K., & McGuire, E. Mexican-Americans on the move: Are teacher preparation programs in higher education ready? 1969. (ERIC Document Reproduction Service No. ED 031 348).

Lambert, W. E. A social psychology of bilingualism. In R. D. Abrahams & R. C. Troike (Eds.), Language and cultural diversity in American education. Englewood Cliffs, N.J.: Prentice-Hall, 1972.

Lambert, W. E. & Peal, E. The relation of bilingualism to intelligence. In Language, psychology, and culture: Essays by Wallace E. Lambert. Stanford, Cal.: Stanford University Press, 1972.

Lambert, W. E., Tucker, G. R., & D'Anglejan, A. Cognitive and attitudinal consequences of bilingual schooling. Journal of Educational Psychology, 1973, 65, 141-159.

Landry, R. G. A comparison of second language learners and monolinguals on divergent thinking tasks at the elementary school level. Modern Language Journal, 1974, 58, 10-15.

Laosa, L. M. Inequality in the classroom: Observational research on teacher-student interactions. International Journal of Chicano Studies Research, Spring-Summer-Fall 1977, 8, 51-67.

Lau vs. Nichols. 414 U.S. 563, 566 (1974).

Lewis, A. J., Collazo, A., Nelson, J., Soar, R., Thomas, W., Hackett, R., Harrison, D., Singleton, R., & Troup, L. *Forecasting social trends as a basis for formulating education policy*. (Paper presented at the Conference of World Future Society, Education Section, Houston, Texas) October 21, 1978.

Lewis, A. J., Hackett, R., Harrison, D., Singleton, R., & Soar, R. *Forecasts of social trends and the curriculum*. (Department of Education project on the impact of the future on education, STAR 78-092) August 7, 1978.

Lewis, D. G. Bilingualism and non-verbal intelligence: A further study of test results. *British Journal of Educational Psychology*, 1959, *29*, 17-22.

Lobato, N. *Bilingual program handbook for elementary schools of Hillsborough County*. Tampa, Fl.: Hillsborough County Public Schools, 1979a.

Lobato, N. *Bilingual program handbook for secondary schools of Hillsborough County*. Tampa, Fl.: Hillsborough County Public Schools, 1979b.

Lobato, N. Personal communication. Tampa, Fl.: March 3, 1981.

Long, S. M. The 1980 census: Implications for education. *Kappan*, May 1981, *62* (9), 619.

López, M., & Young, R. K. The linguistic interdependence of bilinguals. *Journal of Experimental Psychology*, 1974, *102*, 981-983.

Lucas, I. Puertorrequeños en Chicago: El problema educativo del dropout. *Rican*, May 1974, *1* (4), 5-18.

Mackey, W. F. Bilingualism and education. *Pédagogie Orientation*, 1952, *6*, 134-147.

Mackey, W. F. Evaluation of bilingual education. In B. Spolsky & R. L. Cooper (Eds.), *Frontiers of bilingual education*. Rowley, Mass.: Newbury House, 1977.

MacNamara, J. Bilingualism and thought. In J. Alatis (Ed.), *Georgetown University monograph series on linguistics*, *23*. Washington, D.C.: Georgetown University Press, 1970.

Malkin, S. The culturally deprived child and science. *Science and Children*, April 1964, *1*, 5-7.

Martin, C. Foreign language study: A failure to communicate. Nutshell, Fall 1980, p. 160.

McHugh, L. M. The bilingual education of barrio children. The Educational Forum, May 1981, 45 (4), 393-403.

McLaughlin, B. Second-language acquisition in childhood. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1978.

Mead, M. Group intelligence and linguistic disability among Italian children. School Society, 1927, 25, 465-468.

Mitchell, A. J. The effect of bilingualism in the measurement of intelligence. Elementary School Journal, 1937, 38, 29-37.

Molina, H. Evaluating the effectiveness of a program used in school situations characterized by high pupil absenteeism and attrition. System, January 1975, 3 (1), 48-53.

Morris, A. Florida place names. Coral Gables, Fl.: University of Miami Press, 1974.

National Advisory Committee on Mexican-American Education. The Mexican-American: Quest for equality, 1968. (ERIC Document Reproduction Service No. ED 049 841).

National Center for Education Statistics. The educational disadvantage of language-minority persons in the United States. Washington, D.C.: Department of Health, Education and Welfare, 1978. (ERIC Document Reproduction Service No. ED 166 975).

The new immigrants. Newsweek, July 7, 1980, 95, pp. 26-31.

New perspectives on Hispanic Americans. Social Education, February 1979, 43 (2), pp. 100-116.

Olson, J. L., & Larson, R. G. An experimental curriculum for culturally deprived kindergarten children. In J. L. Frost & G. R. Hawkes (Eds.), The disadvantaged child. Boston: Houghton Mifflin Company, 1966.

Petrello, G. J. Remediation for auxiliary service students, 1976. (ERIC Document Reproduction Service No. ED 142 665).

Pintner, R. The influence of language background on intelligence tests. Journal of Social Psychology, 1932, 3, 235-240.

Pletcher, B. P., Locks, N. A., Reynolds, D. F., & Sisson, B. G. *A guide to assessment instruments for limited English speaking students.* New York: Santillana Publishing Company, 1978.

Pollack, M. *Welcome to Florida, the sunshine state.* Fort Lauderdale, Fl.: Southern Program Alliance, 1979.

Ramírez, M., Macaulay, R. K., González, A., Cox, B., & Pérez, M. *Bilingual education series* (Vol. 5). Arlington, Va.: Center for Applied Linguistics, 1976.

Reagan, R. Presentation during the League of Cities Convention. Washington, D.C.: March 2, 1981.

Richardson, K., & Spears, D. (Eds.). *Race, culture and intelligence.* Harmondsworth, Middlesex, England: Penguin Books, 1972.

Rigg, M. Some further data on the language handicap. *Journal of Educational Psychology*, 1928, *19*, 252-257.

Rincón, E., & Rose, R. Bilingual ethnic teachers: An answer to illiteracy and dropout problems. *Reading Improvement*, Spring 1974, *11* (1), 34-46.

Rodríguez, A. *Urban education and the Mexican-American*, 1968. (ERIC Document Reproduction Service No. ED 030 510).

Rosenthal, R., & Jacobson, L. *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development.* New York: Holt, 1968.

Roybal, E. R. Hispanics: A political perspective. *Social Education*, February 1979, *43* (2), pp. 101-103.

Saer, D. J. The effects of bilingualism on intelligence. *British Journal of Psychology*, 1923, *14*, 25-38.

Saville-Troike, M. *A guide to culture in the classroom.* Rosslyn, Va.: National Clearinghouse for Bilingual Education, 1978.

Segalowitz, N. Psychological perspectives on bilingual education. In B. Spolsky & R. L. Cooper (Eds.), *Frontiers of bilingual education.* Rowley, Mass.: Newbury House, 1977.

Shaw, F. Educating culturally deprived youth in urban centers. *Kappan*, November 1963, *45*, 91-97.

Short Form Test of Academic Aptitude (SFTAA): Examiner's Manual. Levels 2, 3, and 4. Monterrey, Cal.: CTB/ McGraw-Hill, 1970.

Short Form Test of Academic Aptitude (SFTAA): Technical Report. Monterrey, Cal.: CTB/McGraw-Hill, 1974.

Simon, P. The tongue-tied American: Confronting the foreign language crisis. New York: Continuum Publishing Corporation, 1980.

Soles, S. Adlai E. Stevenson High School bilingual program: School year 1975-76, 1976. (ERIC Document Reproduction Service No. ED 137 469).

Stansfield, C. Colorado bilingual programs: A positive assessment. Bilingual Journal, Summer 1979, 3 (4), 14-16.

Statistical analysis system (SAS) user's guide. Raleigh, N.C.: SAS Institute, Inc., 1979. (GPLOT Procedure performed in 1981).

The swelling ranks of blacks and Hispanics. U.S. News and World Report, May 4, 1981, 90 (17), 46.

Troike, R. C. Research evidence for the effectiveness of bilingual education. Rosslyn, Va.: National Clearinghouse for bilingual education, 1978.

Troike, R. C. Synthesis of research on bilingual education. Educational Leadership, March 1981, 38 (6), 498-504.

Troike, R. C., & Pérez, E. At the crossroads. In Bilingual education: Current perspective/synthesis (Vol. 5). Arlington, Va.: Center for Applied Linguistics, 1978.

Tsongas, P. E. Foreign language: A political point of view. (Postscript on the American Council on the Teaching of Foreign Languages Annual Meeting held in Boston, November 22, 1980). Foreign Language Annals, April 1981, 14 (2), 115-119.

Tye, K. Educational accountability in an era of change. In L. H. Browder, Jr. (Ed.), Emerging patterns of administrative accountability. Berkeley, Cal.: McCutchen, 1971.

U.S. Bureau of the Census. Congressional Reapportionment Tape: Florida. Census of population, 1980.

U.S. Code 1976 Title 20, Subsection 880b et seq. and 1978 Supplement.

U.S. Commission on Civil Rights. The federal civil rights enforcement effort. Washington, D.C.: Office of Civil Rights Program and Policy, 1970.

von Maltitz, F. W. Living and learning in two languages: Bilingual-bicultural education in the United States. New York: McGraw-Hill, 1975.

Wang, S. L. A demonstration of the language difficulty involved in comparing racial groups by means of verbal intelligence tests. Journal of Applied Psychology, 1926, 10, 102-106.

Watanabe, M. Hispanic marketing. Advertising Age, April 6, 1981, 52 (15), pp. S1-S24.

Weinreich, U. Languages in contact: Findings and problems. The Hague, The Netherlands: Mouton and Company, Publishers, 1966.

Whorf, B. Language, thought, and reality. Cambridge, Mass.: M.I.T. Press, 1956.

Wolf, E. P., & Wolf, L. Sociological perspective on the education of culturally deprived children. School Review, Winter 1962, 70, 373-387.

Woodford, P. The importance of testing. In Bilingual education: Current perspectives/education (Vol. 4). Arlington, Va.: Center for Applied Linguistics, 1977.

Wright, L. Bilingual education. Race Relations Reporter, September 1973, 14-19.

Yarborough, R. Hearings before the Special Subcommittee on Bilingual Education. Washington, D.C.: Senate Committee on Labor and Public Welfare, May 18, 1967, 1-2.

Yourman, J. The case against group IQ testing. Kappan, November 1964, 46, 108-110.

Zamora, E. A status survey of Texas bilingual-bicultural education programs. In Outstanding dissertations in bilingual education recognized by the National Advisory Council on Bilingual Education, 1979. Rosslyn, Va.: National Clearinghouse for Bilingual Education, 1980.

Zappert, L. T., & Cruz, B. R. Bilingual education: An appraisal of empirical research. Berkeley, Cal.: Bahia, Inc., 1977.

BIOGRAPHICAL SKETCH

Esther Isabel Oteiza was born in Havana, Cuba, on November 16, 1949. She attended St. Elizabeth's High School in Wilmington, Delaware, and graduated in 1967 from Chestertown High School, Chestertown, Maryland.

Ms. Oteiza received a Bachelor of Arts degree in Spanish and French literatures and secondary education in June 1970 from Towson State University, Baltimore, Maryland. In 1970, while interning at Overlea Senior High School, she was selected Student Teacher of the Year in Baltimore County.

In March 1972, Ms. Oteiza graduated from Florida State University, Tallahassee, with a Master of Arts in Spanish literature. While pursuing this degree, she held a Teaching Assistantship in the Modern Language Department of that institution.

Ms. Oteiza's teaching experience ranges from the secondary level in Eau Gallie High School, Melbourne, Florida, to Adult Education at Melbourne High School and junior college at Brevard Community College, Satellite Beach, Florida. She has conducted teacher workshops in various areas such as nondiscriminatory student assessment, the elimination of cultural bias in the classroom, cultural awareness, and ESL.

In the fall of 1977 she enrolled at the University of Florida, Gainesville, and was awarded an Elementary and Secondary Education Act (ESEA) Title VII Bilingual Education Teacher-Trainer Fellowship by the U.S. Department of Health, Education and Welfare for a period of three years. During that time, she held Teaching and Supervisory Associateships in the Division of Curriculum and Instruction at the College of Education of the University of Florida. In 1980, she was the recipient of a Florida Educational Research and Development Council (FERDC) research grant to conduct the investigation on her doctoral dissertation. Her major area of interest is bilingual-multicultural education/curriculum and instruction; her minor areas are educational administration and supervision.

On August 8, 1981, she received the degree of Doctor of Philosophy in curriculum and instruction from the University of Florida.

Ms. Oteiza is Coordinator of Language Arts for the School Board of Marion County, Ocala, Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

C L Hallman

Dr. Clemens L. Hallman, Chairman
Associate Professor, Subject
Specialization Teacher Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Arthur J Lewis

Dr. Arthur J. Lewis, Professor
Instructional Leadership and Support

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Elroy J Bolduc

Dr. Elroy J. Bolduc, Professor
Subject Specialization Teacher Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Ruthellen Crews

Dr. Ruthellen Crews, Professor
Instructional Leadership and Support

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Ralph B Kimbrough
Dr. Ralph B. Kimbrough, Professor
Educational Administration and
Supervision

This dissertation was submitted to the Graduate Faculty of the Division of Curriculum and Instruction in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1981

Francis G Stehli
Dean, Graduate Studies and Research

UNIVERSITY OF FLORIDA
3 1262 08666 350 6